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ORIGINAL ARTICLES.

THE PRESENT STATUS OF THE DIPHTHERIA-QUESTION.

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MUCH can be learned from a study of the present status of the diphtheria-question. What is more important, a proper direction may thereby be given to future work. It is strange how the minutiae of diseases escape careful consideration until some special line of research calls for the most exact examination of all details. Future work on diphtheria can be made more rapidly productive of results when the questions to be solved are accurately outlined. Certain it is that the diphtheria-problem cannot be reduced to the same simple formula in man as in the lower animals. In the artificial diphtheria of animals the Loeffler bacillus is the exciting cause, the antitoxin is the neutralizing agent—and there the matter ends. In man, however, many etiologic factors remain yet to be solved.

The use of Loeffler's culture-serum for diagnostic purposes, though adapted to clinical ends, has led to scientific misconceptions. Throughout the recent literature we find the terms "pure culture" and "mixed infection" used haphazard. These terms lack scientific definiteness. No one knows exactly what "mixed infection" is, and there is reason to doubt if a "pure infection" ever occurs. Nothing can be more self-evident than that the question of mixed or pure infection cannot be solved by one culture-medium alone, especially if that medium is especially devised to favor the growth of one germ and retard the growth of others. To use Loeffler's culture-serum for diagnostic purposes is highly satisfactory; to use it as a basis of scientific differentiation is clearly irrational.

Silberschmidt¹ examined 91 cases of diphtheria with Loeffler's serum, bouillon, and glycerol-agar, and all but one showed the presence of streptococci or staphylococci. Those who work with glycerol-agar alone will sometimes fail to detect the Loeffler bacillus when it is present in the throat; and those who work with Loeffler's serum alone will fail to find other germs that could be demonstrated by other means.

Bernheim² has shown that if streptococci and

Klebs-Loeffler bacilli are inoculated in the same tube the streptococci are retarded in development. Bernheim by the use of glucose-bouillon and Loeffler's serum demonstrated that none of his cases presented "pure infection."

In a recent examination of over 120 throat-cases I failed to find any that might be considered a "pure infection."

The term "mixed infection" is far from standing for anything definite. If every case in which streptococci or staphylococci are present at the site of infection is a case of mixed infection, then cases of pure diphtheria are rare indeed. The predominance of one germ over another cannot be made the basis of scientific discrimination, especially if only one culture-medium is used. In follicular tonsillitis staphylococci and streptococci are present. In a case of "mixed diphtheria" we should expect in addition to the symptoms due to the Klebs-Loeffler-bacillus those due to the streptococcus and the staphylococcus; but this is notoriously untrue, as the symptoms (fever, headache, backache) of follicular tonsillitis are usually more severe than those of diphtheria.

What is "mixed infection," and how can we tell that the cocci present in a diphtheric throat are playing any rôle in the disease? Certainly, to talk of the comparative value of the antitoxin in cases of pure and in those of mixed infection is thoroughly irrational, as we do not know what is pure infection and what is mixed infection. A prognosis cannot be made from the bacteriologic examination, as some cases die in which staphylococci predominate, others in which Klebs-Loeffler bacilli predominate. It may be interesting to note here that Bernheim¹ has shown that if animals are inoculated with the filtrate of cultures of diphtheria-bacilli and streptococci, the disease runs a more violent and rapid course; if, however, a filtrate of cultures of staphylococci is used in large quantity the disease is milder than in cases of pure diphtheria.

The question of deciding the infectiousness of convalescent patients is not so easy as was supposed. When a pharyngeal culture fails to reveal the presence of virulent Klebs-Loeffler bacilli the patient is usually dismissed as no longer dangerous. Tezenas du Montcel² showed that when there is a nasal discharge the pharyngeal culture may repeatedly prove negative, and still virulent bacilli may persist in the

¹ Münchener medicin. Wochenschr., Feb. 26, 1895.

² Zeitschr. f. Hygiene, B. xviii, H. iii.

¹ Loc. cit.

² La Province Méd., August 5, 1893.

nose from one to eight weeks. Sevestre et Méry¹ examined 18 cases from day to day in 1893. In one case non-virulent bacilli persisted in the pharynx several days; one month later the bacilli were found to have regained virulence and a sister of the patient was seized with the disease. In two other cases virulent bacilli were found fifteen days after recovery, although intermediate cultures revealed only non-virulent bacilli. In two other cases pharyngeal cultures were negative, though nasal cultures showed virulent bacilli, in one case up to the forty-ninth day. These researches prove that non-virulent bacilli may regain their virulence, and that an existing nasal discharge should not be overlooked in declaring convalescents contagion-free.

The relation of albuminuria and nephritis to diphtheria is another subject that requires clearing up. All writers have noted the great frequency of albuminuria in diphtheria, and most of them have used albuminuria and nephritis as interchangeable terms. Nothing has been made more clear by recent study than that in a large proportion of cases the albuminuria of diphtheria does not depend on nephritis. We are not justified in diagnosing nephritis unless we find epithelium, casts, or blood in the urine. Anyone who takes the trouble to examine diphtheric urine microscopically will be surprised to find how often albuminuria may exist without the presence of renal elements in the urine. Fischer² reports 141 cases of albuminuria without casts. I have myself frequently examined the albuminous urine of diphtherics without finding evidence of nephritis. Schroeder³ reports 44 cases of albuminuria, only 6 of which presented evidence of nephritis. The Stadt Physikat of Trieste⁴ reports 105 cases of diphtheria; 75 of these had albuminuria, but only one-half of these had casts in the urine. This rather startling clinical evidence is made more striking by post-mortem observations. Goodall⁵ reports 30 cases of suppression of urine in diphtheria, leading to a fatal issue in 27 cases. The common characteristics of these cases were: Severe local disease; marked albuminuria; never hematuria or sediment in the urine; anuria more or less complete; frequent vomiting and cardiac failure. Post-mortem examination of the kidneys showed them to be usually normal to the naked eye in every respect. Ten cases were examined microscopically and only trivial changes found. Nothing can be more conclusive than that marked albuminuria and renal insufficiency may be due to causes outside of the kidneys themselves. F. Siebert⁶ reports a series

of 100 tracheotomized diphtheria-cases; 27 of these had albuminuria, but nephritis was found post-mortem only three times; 10 patients had from 0.5 to 6.0 per cent. of albumin in the urine *intra vitam*; very careful post-mortem examination failed to reveal the presence of nephritis.

In estimating the effect of the antitoxin on the kidneys, therefore, much more must be taken into account than the existence or the degree of albuminuria. In fact, a new subject is opened for investigation, and the albuminuria of diphtheria has yet to be explained. One thing seems fairly certain, viz., that the antitoxin exerts no harmful influence on the kidneys.

It is probable that the experiments of Mya¹ represent the truth of the matter, viz., that the antitoxin has no appreciable effect on heart, blood, or kidneys. This observer watched four children from eighteen months to six years of age. He kept them under very close observation for several days, noting pulse, diurnal temperature-variation, blood, and urine. Then he injected 30 c.cm. of the antitoxin, and noted the changes during the succeeding hours and days. The first child, aged six years, convalescent from measles, presented the following conditions for several days before inoculation: The erythrocytes numbered 5,160,000; the leukocytes 6916. The average quantity of urine for twenty-four hours was 660 c.cm.; the specific gravity was 1014; the urea equalled 14.25 gm.; there was present neither glucose nor albumin, but a trace of indican. The rectal temperature varied from 37.5° C. to 37.8° C. The injection of the antitoxin was followed in a few hours by a reduction of the erythrocytes to 3,541,666; an increase of the leukocytes to 9381. No variation was noted in pulse or temperature. The urine increased to 1280 c.cm. on the second day; the secretion was free from albumin, glucose, and urobilin. All of these variations were transitory, and in a few days the normal was regained. The results in the other three children were the same. The changes due to the antitoxin may be summarized as: 1. Transitory diminution of the red blood-corpuscles. 2. Slight leukocytosis. 3. Polyuria. 4. Slight increase in the excretion of urea.

That the oligocythemia was not due to destruction of corpuscles is proved by the absolute absence of urobilin from the urine. It was probably due to dilution of the blood from the lymph-channels, as also evidenced by the leukocytosis and polyuria.

These observations of Mya are very important, as they were conducted with great care. Moreover, they agree with other clinical observations. Albuminuria is present in a majority of cases of

¹ Revue des maladies de l'Enfance, Mars, 1895, pp. 108-118.

² Medical Record, April 6, 1895.

³ Münchener medicin. Wochenschr., April 4, 1895.

⁴ Wiener klinische Wochenschr., 1895, No. 3, p. 55.

⁵ Lancet, 1895, pp. 269-273.

⁶ Therapeutische Monatshefte, 1895, p. 123.

¹ Sull' azione fisiologica del siero antidifterico nell'organismo infantile. Lo Sperimentale, April, 1895.

diphtheria treated without the antitoxin, being variously estimated by Hensch, Baginsky, and Eberth, as occurring in from 50 to 60 per cent. of all cases. Schwalbe¹ reports 470 cases of diphtheria in the Friedrichshain Hospital before the antitoxin-period; albuminuria was found in 227, though examinations were made but once in each case. Kolisko² says that in 75 post-mortems of cases treated with the antitoxin the kidneys presented no deviation from kidneys seen before the antitoxin-period. Ganghofner,³ in a most guarded paper, reports albuminuria, lasting any considerable time, as occurring in only 20 of 110 injected cases. Of 33 cases injected on the first or second day, none had severe albuminuria. In Cincinnati albuminuria occurs in nearly every severe case of diphtheria. I had the opportunity in March of making a curious observation of five children in two families, two of whom were treated with and three without the antitoxin. The cases all ran a mild course, but all suffered from rather marked albuminuria. The cases lay side by side in a hospital-ward. The appetite was good in all, and there was no pain, no edema, no morphotic elements in the urine; yet the albuminuria persisted in all, notwithstanding treatment for from two to three weeks. Authorities are almost unanimous in the belief that the antitoxin does not lead to increase in the proportion of albuminurics, some even noting a diminution.

Testimony on the subject of the heart is variable, the vast majority of writers noting no bad effects on the heart. Some few, among whom is Baginsky, believe that the heart is unfavorably affected. Mya observed absolutely no variation in the rate, rhythm, or tension of the pulse, as shown by sphygmographic tracings. Observations of the blood have yet to be made. Certain it is that fear of bad effects need cause no one to abstain from the use of the antitoxin.

It is yet impossible to determine the effects of the antitoxin on the paralysis of diphtheria. Exact figures are not available. The occurrence of paralysis varies in different epidemics and in different regions. In Berlin it is very common (Hensch); in Munich it is not often met with (Seitz); in Halle it is uncommon (v. Mering). It seems incredible that the use of the antitoxin should increase the proportion of cases attended with paralysis; clinical reports, on the other hand, seem to show that the proportion is not reduced. Heubner⁴ reported paralysis in 7.4 per cent. of 207 cases treated with the antitoxin; C. Seitz⁵ injected 74

cases on the first or second day of the disease, and encountered some very severe cases of paralysis. Hager¹ had 3 cases of paralysis among 20 under observation; Washburn² 6 among 48 survivors; Fischer 21 in 190 cases; Mya³ 5 in 50 cases; Soltmann⁴ only 4 among 76 recoveries; Germonig⁵ only 8 in 290 survivors; Siegert⁶ 33 in 100 tracheotomized cases; and so on through a long list. It is advisable to look over old records of the pre-antitoxin-period and strike a general average for each locality, and then to follow up all new cases with watchfulness. This will require years of attention, and this is destined to be one of the last problems connected with the subject to be solved.

When we come to the final question as to how far the antitoxin has reduced the mortality of diphtheria we enter upon a most perplexing field of inquiry. When all is said and done, the statistical method is the court of ultimate appeal; and yet just this method exposes us to a thousand errors. Here, too, it will be found profitable to seek the sources of error and eliminate them as far as possible from future research and summaries. Up to the end of January over 3000 reported cases had been collected, with a mortality of 20 per cent. (Heubner), and reports since that time have given us about the same results. On its face-value this seems to give us a marked reduction in mortality as compared with former times, and yet a critical estimate bids us withhold our judgment.

I should like to emphasize the following propositions:

1. Hospital-statistics considered by themselves are likely to be misleading.
2. Diphtheria treated under favorable conditions is not so fatal a disease (even in Europe) as is commonly supposed.
3. The bacterial criterion of diagnosis has a wide influence on the results achieved.

Regarding Hospital-statistics. Common observation teaches us that agitation of new remedies among the populace leads to a rapid influx of patients suffering from that disease to the centers of treatment. In 1890 the tuberculous world flocked to Berlin and to the hospitals for tuberculosis. During the past year hospitals have dealt with vastly more cases of diphtheria than heretofore. We are indebted to Gottstein, of Berlin,⁷ for some brilliant observations on this score. He compares the admissions and deaths in the Berlin hospitals with the municipal cases and deaths during the past five

¹ Deutsche medicin. Wochenschr., 1894, No. 51.

² Therapeutische Monatshefte, February, 1895.

³ Prager medicin. Wochenschr., 1895, Nos. 1, 2, and 3.

⁴ Münchener medicin. Wochenschr., April 4, 1895.

⁵ Ibid.

⁶ Therapeutische Monatshefte, Feb. 1895, p. 91.

⁷ British Medical Journal, Dec. 22, 1894.

⁸ Lo Sperimentale, Feb. 21, 1895.

⁹ Deutsche medicin. Wochenschr., 1895, No. 4.

¹⁰ Wiener klin. Wochenschr., May 23, 30, 1895.

¹¹ Loc. cit.

¹² Therapeutische Monatshefte, Jan. 1895, p. 33.

years. From September 30th to November 24th there died of diphtheria in the Berlin hospitals, in 1890, 131 cases; in 1891, 124 cases; in 1892, 178 cases; in 1893, 197 cases; and in 1894 (antitoxin-period), 131 cases; the admissions, however, during this period increased from 328 in 1890 to 712 in 1894. The mortality in Berlin from diphtheria is less than half the mortality in the Berlin hospitals; *i. e.*, the severest cases are sent to the hospitals. Now if all of the cases in Berlin were sent to the hospitals the mortality would, without any change of treatment, fall, *eo ipso*, 50 per cent.

This is just what happened in the autumn of 1894. The number of admissions more than doubled and the mortality sank 50 per cent. The total mortality, however, was not thereby reduced, and as many cases died in 1894 as in 1890, only the place of their dying was changed. In 1890 there were 1591 deaths from diphtheria in Berlin, of which 682 (or 43 per cent.) occurred in the hospitals; in 1894, from January 1st to November 24th, there were 1281 deaths in Berlin, of which 737 (or 57.5 per cent.) occurred in the hospitals. Gottstein concludes with complete justification as follows: 1. The death-rate in hospitals was reduced 50 per cent., because twice as many cases were admitted. 2. The total mortality in hospitals in 1894 (to November 24th) was already larger than for 1890 or 1891. 3. The total mortality in the hospitals and the city was not at all reduced.

This able analysis explains the apparent benefit of the antitoxin in many other hospitals, and we may justly doubt the value of the statistics of any hospital that has suddenly experienced a large increment of patients.

With very few exceptions it is true that the mortality from diphtheria in cities at large is very much less than in the diphtheria-hospitals, and hence any influx from the city to the hospital would of itself lower the mortality-percentage of the latter. This is exemplified in the reports from Trieste.¹ In 1893, 110 cases were treated in the hospital and 52.7 per cent. died; in the first eight months of 1894, 149 cases were treated and 46 per cent. died. Now came the antitoxin-period; in the next five months 362 cases (!) were admitted and the mortality was naturally reduced to 20 per cent. Hahn reports from the Friedrichshain Hospital that though the number of cases in 1894 was very much increased, the total mortality in the hospital was not reduced, but only the percentage. Thus we see that hospital-statistics *per se* are unreliable, and we should know in every case the number of cases treated as compared with the total number in the respective city.

Diphtheria treated under favorable conditions is

not so fatal a disease as is commonly supposed. At the Congress of Internal Medicine, recently held in Munich,² Baginsky said that his contemplation of diphtheria in former years was among the most gloomy of all his experiences: "In the diphtheric pavilion I gained the impression that we were absolutely helpless in dealing with diphtheria, and that nursing did more than medicines." All this sounds dramatic, but we must remember that at the Munich Congress Baginsky was pleading the cause of the antitoxin. In 1891 his contemplations were not so gloomy, nor his results so bad as he has since depicted them. In his *Arbeiten aus dem Kaiser u. Kaiserin Friedrich Kinderkrankenhause*,³ published in October, 1891, he thus sums up the work of the diphtheria-pavilion for the first year of the hospital's existence: 244 cases were treated; the mortality was 40 per cent.; thirty-seven of these cases were admitted with far-advanced septic and gangrenous diphtheria and died soon after admission. "Subtracting these cases," says Baginsky (p. 246), "but including a larger number of those that were tracheotomized, we had a mortality of 23.1 per cent., a result in diphtheria with which we ought to be very well satisfied." In his recent book he reports 527 cases treated with the antitoxin, with a mortality of 15.6 per cent.

Much stress is laid by the upholders of the antitoxin on the fact that the sooner the cases are injected the better the prognosis; and the brilliant achievements of the antitoxin in this particular are above dispute. It is, perhaps, not useless to call attention to the fact that before the antitoxin-period the prognosis was good in cases brought early for treatment.

F. Siegert⁴ gives his results in the treatment of diphtheria without the antitoxin in the children's clinic at Strasburg. He cites in detail 100 cases that required tracheotomy—hence all severe cases. Six were received on the first day of the disease—none died; ten on the second day—two died. After the second day the mortality ranged from 31 to 53 per cent. Siegert urges further that fatal complications do not arise, as a rule, until after the fourth day, and that, therefore, if cases are treated early the mortality will be reduced *eo ipso*. Of fifty fatal cases in his clinic, there died on the first three days of the disease none; on the fourth day five; on the fifth day eight, etc. Dangerous symptoms do not arise early; parents wait until death seems imminent and then hurry their children to the hospital. During the antitoxin-period they take them early, and hence the percentage of recoveries is greater.

¹ Germonig: Wiener klin. Wochenschr., May 23, 30, 1895; and Stadt-Physikat, *Ibid.*, 1895, No. 3.

² See Münchener medicin. Wochenschr., April 2, 4, 9, 1895.

³ Stuttgart: Ferdinand Enke.

⁴ Therapeutische Monatshefte, March, 1895, pp. 118 *et seq.*

Ritter¹ states that in the two years preceding the use of the antitoxin he lost no case of pharyngeal diphtheria that was brought early for treatment, although he had had altogether ninety-one cases.

Baginsky, Kossel, Ehrlich, and others emphasize the fact that after the injection of the antitoxin the membrane never spreads into the larynx. Ganghofner,² however, in an article friendly to antitoxin, cites his pharyngeal cases during 1893, and finds that in only two cases did the membrane spread to the larynx after treatment was instituted. The mortality among these pharyngeal cases was only 15.8 per cent.

We learn from all these observations that diphtheria treated promptly under favorable conditions (hospital-hygiene, good nursing, food, and air) is by no means so fatal as we are taught to suppose, but that even in the pre-antitoxin-days the mortality was great only among neglected or improperly situated patients. In private practice, in Cincinnati, at least, the percentage of fatal cases is small; the mortality ranges here from 19 per cent. (in 1891) to 33 per cent. (in 1888), but the death-rate among the upper classes is very much less.

It is not true, as was first supposed, that all cases treated on the first or second day with the antitoxin will recover. Ganghofner had two cases that were injected on the second day to prove fatal; Heubner³ reports failure in a few cases injected on the second or third day. Kohts⁴ injected a case on the second day; twenty-four hours afterward new and extensive membranes formed. In another case, injected on the second day, the larynx became involved later, and tracheotomy was required. In the Trieste hospital five cases died, though injected on the second day.

Soltmann⁵ had thirteen deaths among eighty-nine cases; six of the fatal cases were injected during the first four days of the disease; and in thirteen cases the membranes descended to the pulmonary alveoli, notwithstanding the antitoxin.

Vierordt⁶ reports eight deaths among fifty-five patients. Two of the fatal cases were injected on the second day and two on the third. Ritter details the following history: He saw a strong child, aged three years, that had been taken sick only a few hours before; on both tonsils circumscribed patches appeared; the temperature was 39.7°, the pulse between 110 and 120. Behring's antitoxin No. 3 was used. The membranes nevertheless spread, the larynx was invaded, tracheotomy was refused, and the child died on the sixth day.

We are compelled to admit that the antitoxin fails

to cure in a certain proportion of cases, notwithstanding the fact that all other conditions are favorable.

Finally, a few words are in order regarding the effect of the bacterial diagnosis on hospital-statistics. Formerly, at least in American cities, though all the fatal cases were reported, many mild cases were not. Now, that bacterial diagnosis and municipal supervision render diphtheria-cases in a measure public property, many more cases will be brought to the notice of health-officers than formerly, and the mortality-rate will seem to sink. This is prettily illustrated in the recent health-report of Boston for the year 1894. Boston has not only a Bureau of Bacteriology, but it also has an army of school-inspectors to examine school-children. With these combined means an enormous number of cases of diphtheria are ferreted out, cases that formerly would have been called simple sore-throat. This statement is made in the report itself. Thus in 1894 Boston had 3019 cases of diphtheria. The greatest number of cases any previous year was 1814. We would expect from this an enormous reduction in the mortality, but find that the mortality (27.06 per cent.) is but slightly less than in preceding years—and yet the Boston authorities congratulate themselves on having reduced the rate of mortality by means of the antitoxin. They have simply reduced the rate by means of bacterial diagnosis and school-inspection, while the absolute mortality is far in excess of former years.

Enough has been written to show that the questions concerning diphtheria and the antitoxin are still in their infancy, instead of nearing solution. It is well to know the pitfalls that are in the way of our attaining the truth.

- 347 WEST SEVENTH ST.

A CONTRIBUTION TO THE STUDY OF DEAF-MUTISM.¹

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THE subject of deaf-mutism is one that does not appeal very strongly to the interest of the busy general practitioner, or, perhaps, even to the aurist. We think of the totally deaf as a class of individuals whose condition has removed them beyond the pale of aural treatment—an incurable class, to be relegated, if still young in years, to the attention of teachers in institutions for training in vocalization, as having passed beyond the range of the aurist's work. Clinical experience has shown clearly that,

¹ Read before the Medical Society of the State of Pennsylvania, May 24, 1895.

¹ Wiener medicin. Wochenschr., April 27, 1895, p. 778.

² Loc. cit.

³ Loc. cit.

⁴ Münchener medicin. Wochenschr., 1895, p. 343.

⁵ Deutsche medicin. Wochenschr., 1895, No. 4.

⁶ Deutsche medicin. Wochenschr., March 14, 1895.

when total deafness has been found to exist, or when in mutes the degree of hearing is reduced to a vague sense of sound, the best interests of the child are considered when it is transferred to the care of oral teachers.

The questions in connection with deaf-mutism, however, that cannot but have interest for the physician, are those relating to the prevention of loss of hearing in early childhood. Examinations of deaf-mutes made by Holger Mygind, and others (including some observations of my own), show undoubtedly that strictly congenital deafness is a far from common cause for failure in acquiring speech. By congenital deafness I mean the existence of abnormalities within the tract of hearing that have appeared during the development of the fetus. That such conditions can exist has been proved by post-mortem examination, and there are in most institutions for the deaf and dumb instances of children that show such abnormalities in the external ears and in the contour of the skull that we can, with a fair degree of reason, believe that there have been corresponding failures or errors of development within the sound-perceiving apparatus.

It has been a rather common practice to classify all children that have never spoken, and that have never given signs of having heard, as congenital deaf mutes; but, considering the great number of conditions attending many forms of disease that may attack the infant in the first few months of life, and that may tend to involve the ears in an inflammatory process, it seems to me that very many elements of doubt must be cleared away before we can say definitely that a given case of deaf-mutism is congenital. In other words, in by far the majority of deaf mutes there were opportunities given the care-takers of the children for preserving the hearing, or for lessening the consequences of destructive processes that were annihilating one of the five senses. Thus coryza, the exanthemata, syphilis, asthenia after wasting diseases, may, in very early infancy, rapidly destroy the delicate aural tissues, while destruction is in progress, also, in other tracts of the body. This latter process may be noted and receive full attention from the children's care-takers, while the process within the ear is unnoted or ignored. The child recovers, and its disease leaves no impression on the organs whose lesions caused most anxiety to the medical attendant and to the family, yet the unnoticed aural complication has left permanent, perhaps total, deafness.

I have seen a child, about thirteen months of age, that had suffered for weeks, during a hot summer, from enterocolitis. Little attention was paid to anything above the diaphragm. During the active stage of the illness the child had at frequent intervals given vent to what has been termed the "hydrocephalic cry," but which is not uncommon

in young children suffering from pain within the ears. The child pulled feebly at the left auricle and pressed its head against the pillow. Eventually, a slight discharge from the meatus of this ear appeared, but soon ceased, to be followed by a swelling over the mastoid process of the same side. The aural complication had now progressed for two weeks without attracting attention from the abdomen. Sweating, chills, and pyemic symptoms had been manifest, but not until a mastoid abscess bulged the left ear out like a horn from the infant's head did the attendants decide that the ear required any special care. A grave, destructive process, lessening the child's hearing, perhaps its power of speech for life, had progressed under the eyes of intelligent parents, nurse, and doctor. How frequent may not such instances be in the crowded, undisciplined homes of those whose children form the great number of our deaf-mute pupils, and whose statements as to the origin of deafness are accepted and furnish the data for statistics regarding the causes of deaf-mutism! No objective symptoms may occur that would be noted by such persons; yet an active destructive process may have caused total deafness, and the parents report that the child was "born deaf."

In a series of pupils, numbering 546, examined at the Pennsylvania Institution for the Deaf and Dumb, it will be noted how many of the diseases charged with causing the deaf-mutism are common to childhood or to early infancy:

Scarlet fever	78
Cerebro-spinal meningitis	44
Meningitis	39
Measles	19
"Colds"	15
Convulsions	12
Traumatism	14
Otitis media	11
Typhoid fever	8
Spinal meningitis	8
Pneumonia	4
Catarrhal fever	4
Teething	3
"Malaria"	3
Black fever (?)	3
Cholera infantum	3
Diphtheria	2
Enteritis	2
Whooping-cough	2
Rachitis	1
Smallpox	1
Shock	1
Mumps	1
Bronchitis	1
Sunstroke	1
Croup	1
Eczema	1
Unrecorded	8
Unknown cause	56
"Deaf from birth"	200

The cases marked as "deaf from birth," 200 in number, would doubtless be greatly lessened if the

parents had been more accurate in their reports. Ignorance and want of intelligence may account for lack of more exact data.

A study of the conditions revealed by an examination of the ears of the 546 pupils is very suggestive of the results of destructive processes that may have been, and probably were, at first, limited to the sound-conducting apparatus. These lesions consist (1) of a sclerosing, non-suppurative process affecting, primarily, the sound-conducting apparatus, and resulting in immobilization of its various parts; (2) of extensive destruction of the tympanic contents by a suppurative process, in many cases still active, which has destroyed the middle ear, and, probably, portions of the inner ear also, while, in some instances, it has caused exfoliation of the ossicles, destruction of the mucous lining of the tympanum, denudation and necrosis of its bony walls, and the development of cholesteatoma. As one case not infrequently presented several lesions, it will be understood why the total number of cases reported exceeds the number of individuals examined.

1. Otitis media sclerotica, the drumheads being feebly movable	191
2. Otitis media sclerotica, with adherent and immovable drumheads	150
3. Engorgement of the manubrial vessels, the drumheads being pinkish, suggestive of an active catarrhal inflammation of the mucous membrane of the tympanum	10
4. Calcareous deposits in the drumhead	16
5. Perforation of the drumhead, with active supuration	46
6. Cicatrized perforations	55
7. Impactions of cerumen	57
8. Atresia of the auditory meatus	2
9. Undeveloped auricles, with absence of the external auditory canal	1
10. Foreign bodies in the external auditory canal	7
11. Desquamative inflammation of the external auditory canal	4
12. Drumheads appearing normal	51

It will appear from this list that the great majority of these conditions suggest a comparatively slow but destructive process, either with or without suppuration, tending to cause sclerosis by fibrous or bony changes within the sound-conducting apparatus. In other words, there are few of these conditions that might not have yielded to judicious treatment employed in the early stages of the aural disease. At the same time we must not be misled into the error of supposing that each of these conditions noted represents the cause of the total deafness in every case in which it has been noted. The abnormalities of the posterior nares and pharynx in many of the pupils in this series indicate the possibility that middle-ear sclerosis may have developed gradually, in some instances, as a result of such nasal and pharyngeal disease, subsequent to a destructive process within the sound-perceiving apparatus that

had itself already destroyed the sense of hearing. The aural lesions noted, however, cannot be disregarded, even considering this possibility.

The ages at which deafness is stated to have developed is of considerable interest:

At birth	200
Under one year old	48
From one to two years old	84
From two to three years old	62
From three to four years old	56
From five years old and over	55
Uncertain	41

I have already referred to the uncertainty of a diagnosis of deafness at birth, while deafness sufficient to cause failure in acquiring speech may not be noticed until the second year of childhood. Considering this fact, and considering, also, the character and chronicity of the aural diseases suggested by the lesions observed in pupils whose deafness is dated from birth to the second year of childhood, I feel safe in grouping these periods together, making 332 pupils out of the total, 546, whose aural disease developed in the years before the rudiments of speech are acquired. At this early age the child may be the victim, as well as the ward, of its care-takers. It can but imperfectly call their attention to many grave symptoms, and its feeble efforts at so doing may be unnoticed or ignored. We must exclude from this number the instances in which, from the personal and family history, as well as from the objective symptoms, it is reasonable to believe that deaf-mutism was indeed congenital. I do not feel that our tests, at present, enable me to give the number of this latter class of pupils with any degree of certainty. The indications, as judged from the conditions found in the ears of the entire series of 546 pupils, favor the idea of deafness developed subsequent to birth, and with otitis media, resulting from many different processes, as a direct cause.

Consanguinity of parents has been found by observers to be one of the causes of deaf-mutism. In thirty-one instances among our series of 546 pupils, the parents were stated to be blood-relations. This is not a large percentage, yet it can scarcely be passed by unnoticed. The influence exerted by consanguinity of parents as a causative element in producing deaf-mutism in their children is a subject involved in much obscurity. Where others have failed in explanation, I do not even attempt to do better. It must be commonly noted, however, by all physicians that blood-relationship in parents whose family has a strong predisposition to certain diseases of the pulmonary or nervous system, or to syphilis in its varying degrees of activity, is prone to result in the birth of children presenting many abnormalities of anatomic structure and physiologic function. In such weaklings the structures of

the ear are certainly no more proof against divergence from the normal than are the parts of the cerebro-spinal tract or the lymphatic system. Even in robust subjects, the tissues of the ear yield readily to inflammation; much more readily must they yield in these strumous, feebly recuperating children of the class to which I refer.

It is a question if the blood-relationship of absolutely robust parents, members of a sound, healthy family, would have a sinister influence upon the physical health of their children or be in any way a factor in producing deaf-mutism. The exaggeration of vicious physical defects, or of a tendency to grave disease by the intermarriage of unhealthy relatives is certainly a very potent factor in causing deaf-mutism. A tendency to aural disease, or to catarrhal inflammation of the upper respiratory tract and ear, seems to be not uncommon in the families of deaf mutes. One-fifth of the entire series of pupils studied belonged to families having other deaf mutes among their members. In fifteen instances the parents were themselves deaf mutes. In 123 instances other children of the same family, cousins, aunts, or uncles, were partially or totally deaf or were also mutes.

Among our series of cases are a few very startling instances of the general distribution of deaf-mutism through a family. In these an entire family may form, as it were, a community of deaf mutes. The existence of deaf-mutism among the near relatives of about one-fifth of the pupils in our series sufficiently indicates that a tendency to destructive diseases within the ear is common to certain families. In such instances it would appear that there must exist some inherent weakness, by reason of which the tissues fail to resist the influences of disease to a greater degree than is the case with more nearly normal subjects. The nature of such physical taint can scarcely be analyzed. It is probably very multiform in character, and may arise from any conditions that have made a deep impress upon the vital centers that control nutrition and growth. Syphilis, extreme alcoholism and debauchery, years of great poverty, with mental and physical suffering upon the part of a parental pair, may account for a progeny of defective men and women, among whom deaf-mutism claims a few victims, while struma, pulmonary tuberculosis, locomotor ataxia, rheumatoid arthritis, idiocy, epilepsy, and insanity may have a greater number of subjects. In other words, deaf-mutism is only one of the phases of physical degeneration that may appear in members of a physically degenerate race. It is to such individuals that we may look with reason for instances of true congenital deaf-mutism, especially if taints of disease are concentrated by the intermarriage of members of such stock.

The lessons to be learned from these statistics,

and those of other observers, bear relation mainly to the prevention of deafness in infancy and early childhood. We have seen that, excluding the unfortunate victims of inherited weakness and disease, to whom the congenital deaf mutes probably belong as a class, we have large groups of individuals whose total deafness (and resulting mutism) has developed at an early age, and was apparently of such nature in the beginning as to have allowed of cure had the aural conditions been recognized in time and treated judiciously.

The best methods of treatment are made manifest when we note the changes within the fauces and posterior nares of deaf-mute pupils. This ground has been gone over quite thoroughly by several observers, including myself, and it is not necessary to repeat the details. Suffice it to say that the investigations of observers who have given attention to the upper respiratory tract and ears of deaf mutes show that hypertrophied and diseased tonsils and hypertrophy of the lymphoid tissue within the post-nasal space are exceedingly common conditions. We know how commonly they exist in children whose hearing is still normal, and how intimately they are associated with catarrh of the middle ear.

Such conditions, causing mouth-breathing, want of drainage of the excessive mucous or muco-purulent discharge resulting from the attendant catarrhal rhinitis, causing also pressure upon or closure of the Eustachian tubes, must be removed and the parts rendered as nearly normal as possible. Such measures are of special importance in children whose family history indicates a tendency upon the part of their parents or other relatives to contract aural diseases, with the development of grave deafness. Otitis media, as a complication arising during the course of any illness in early childhood, requires early diagnosis and careful after-treatment. With the relief of the acute symptoms and the distressing pain, the treatment does not end. An uncared-for, acute, non-syphilitic inflammation may drift on into a slow, progressive, sclerosing process, binding the mobile parts of the middle ear in fibrous or bony union, and extending onward into the labyrinth, while an acute suppuration, with rupture of the drumhead, may continue until a chronic otorrhea has been established, with all its attendant dangers to the hearing-power, to the health, and even to the life of the child.

The strange trust in time and circumstance, or, we might say, in fate, that expresses itself in the belief that otorrhea must not be cured, that aural symptoms will be "outgrown," that otitis media in subacute form is a natural aftermath of measles and scarlatina, and that some supernatural influence that brought it about will also lead to its cure while we look on, is not a rational trust in Providence; nor can the doctor safely congratulate himself that the "con-

founded ear-trouble" is, for him as well as for his patient, at an end when "the gathering in the head" has broken. With the general practitioner rest the care and responsibility for the preventive treatment during the illnesses of early childhood. He should be on the lookout for aural symptoms; should know the simple means at hand for their treatment, rather than have recourse to olive-oil, almond-oil, Harlem-oil, catfish-oil, kerosene-oil, all served hot or cold, with or without laudanum, as the child's grandmother may desire. A plug of raw onion need not be wedged into the affected ear, and yet the doctor may do his duty. The teachings of the professor of aural and rhino-laryngeal diseases, now, after many years of stupid opposition, a recognized member of the faculties of many of our medical schools, will tell of better things, and the physician in any city or large town can call an aural surgeon to his aid if the simpler methods fail him.

THE EARLY RECOGNITION AND THE CLIMATIC TREATMENT OF PULMONARY TUBERCULOSIS.¹

BY H. B. MOORE, M.D.,
OF COLORADO SPRINGS, COL.

EACH year's added experience with the high-altitude treatment of pulmonary tuberculosis impresses me freshly with the idea that certain very elementary facts relating to this very valuable therapeutic method, although often detailed by interested students of the subject, are constantly lost sight of by physicians prescribing this mode of treatment. The most important of these relates to an early recognition of the true nature of the case, so that the altitude-treatment may be instituted at once, and to the desirability of a more or less prolonged residence at the high altitude. Disregard of reasonable forethought in these particulars, more especially the first point, leads to great disappointment on the part of patients and friends and brings undeserved disrepute upon the treatment. I am willing to admit that some of the blame for this should rest upon the shoulders of too enthusiastic admirers. A goodly portion of it, however, belongs properly to that large body of practitioners who no sooner read of a new cure than they proceed to try it indiscriminately upon every case of the malady coming under their observation.

What is true of other diseases and their medical treatment is also true of the climatic therapeutics of pulmonary tuberculosis. It is far from wise to send every such case to Colorado to try the high-altitude treatment. The prospect for an arrest or cure of this disease diminishes very rapidly with its advance, and what has been a most favorable case may

soon become inappropriate for this climate. Prophylaxis is always better than cure, and the family physician, seeing a rapidly growing boy or girl with imperfect chest-development, in a family predisposed to tuberculosis, can often avert a catastrophe by sending the child to a high altitude. The outdoor life, sunshine, and rarefied air of these regions are the most rational and perfect preventives of which one can conceive. Such cases are common in the experience of all physicians, and a practical recognition of the truth of this statement will lead to most gratifying results.

When too late for prophylaxis, and the disease is actually in progress, it seems to me (and my experience in this line has been such as to create strong convictions on the subject) almost criminal to keep the patient at home trying cough-medicines, creosote, guaiacol, cod-liver oil, hypophosphites, etc., during that valuable time, often so short, when climatic treatment is really capable of rendering radical assistance in the struggle with the invading enemy; but, alas, often, one might say usually, the patient is kept at home until the vital powers are weakened by advanced disease, and then, finally, it is decided to send the patient somewhere for his health. Is this reasonable, and can anyone who has the slightest grasp of the subject imagine, for an instant, that any climate will materially help a considerable percentage of cases of this kind? The system is already poisoned with the products of supuration, and each day finds the cells less able to cope successfully with the already existing disease-area, to say nothing of its spread. This phlegmatic conception and management of tuberculosis is not rational and can never succeed.

One must have a sharp, clear-cut appreciation of the fact that a great danger menaces every individual whose tissues have become the site of the slightest degree of this form of bacterial invasion, and that, although some subjects are found to possess a remarkable degree of tolerance for the disease, as a rule the existence of any considerable amount of tuberculous tissue in the lungs constitutes a handicap too great for Nature to oppose successfully.

One error probably oftener fallen into than any other, even by physicians, is the idea that a person who looks well, or fairly so, cannot have tuberculosis. They cannot harmonize the appearance of an apparently healthy person before them with their conception of the pale and wan tuberculous patient, and forget that tuberculosis is an infective disease, which, like other diseases, has a beginning as well as an end, and if the symptoms are suspicious they think their science is at fault and call the disease "bronchitis" or a "cold that lingers," instead of by its right name. It would be interesting to know when, in the opinion of a large number of our professional brethren, these ailments ceased and

¹ Read before meeting of the American Climatological Association, Hot Springs, Va., June 13, 1895.

actual tuberculosis began. I have had the misfortune to see large numbers of self-deceived, or doctor-deceived, human beings with tuberculous cavities, hectic fever, etc., arrive in Colorado Springs as cases of "bronchitis," "protracted cold," etc., and die in due time. On the other hand, it is a real satisfaction to examine some of the patients sent to Colorado by men thoroughly conversant with the subject, who make an early diagnosis and act on it at once. As a case in point, of which I am glad to say there are many, that of a young man, already becoming well known in our own profession, comes to mind. He had been an athlete in college, and on arrival in Colorado Springs was a picture of healthy vigor, broad, full-chested, and with a good, healthy color; yet a little suspicious cough existed and examination of the chest revealed beginning slight trouble at an apex, and the sputum-examination showed quite numerous tubercle-bacilli.

Cases in which the tuberculous infection is discovered early, and there is scarcely more than a little infiltration at the seat of invasion, are ideal, and may be taken as models of what we should strive after. Often Nature comes to our aid and declares, by means of a small hemorrhage or a slight spitting of blood, that tuberculous invasion has occurred at some little point in a person who has not previously coughed or been unwell in any way. Such an occurrence, although very alarming to the patient, is really a most fortunate one if properly interpreted and acted upon by the physician. Very often, however, the doctor discovers some point in the throat (usually) or the bronchial tubes the seat of alleged congestion, which he assures the patient caused the bleeding, and encourages the latter not to be alarmed, and so the probably valuable significance of the warning is lost and not thought of again until its repetition, or warnings of another character throw unpleasant light on the subject.

It may be asked with propriety whether the very early cases are the only ones that it is wise to send to a high altitude, and whether conditions so efficacious in prophylaxis and in the early stage of the developed disease are without efficacy in cases that are further advanced on first seeking advice as to the advisability of a change of climate. The reply to this question would be that the high-altitude treatment is the treatment suited especially to the earlier manifestations of the disease, the subjects of which still retain a large amount of their accustomed vigor and are able to avail themselves fully of the advantages of outdoor life in mountainous climates, which, from the very nature of things, are not very equable and which require a considerable amount of hardiness to withstand temperature-changes readily perceived by delicate anemics and subjects of hectic fever. At the same time every physician with experience in elevated regions can recall many cases

presenting relatively extensive areas of disease in subjects possessing a considerable degree of tolerance for the disease and free from fever, who thrive in these regions and live many years.

Actual cure, however, is rare in these cases, the disease being merely arrested and liable to begin afresh on return to damp, sea-level climates. A very extensive area of even inactive disease would constitute a decided contra-indication to the high-altitude treatment, as a considerable amount of good healthy breathing-space is necessary for a patient to obtain the requisite amount of oxygen in a rarefied atmosphere. It is rarely wise to send active febrile cases advanced beyond the first stage to a high altitude. The deeper breathing required and the exciting character of the climate are very likely to promote destruction of existing consolidation and increase fever. Many such cases are seen in Colorado, in which, so far from being aided, the end is undoubtedly hastened.

As regards the other point to which I wish to call particular attention, viz., the necessity of a more or less prolonged residence at high altitudes, it is a serious error to give a patient going to Colorado on account of tuberculosis the idea that he is simply to go there for "two or three months," or "to spend the winter." It is very rarely that expectations of this sort can lead to anything but disappointment, as the disease is of such an essentially chronic character that this length of time is scarcely more than sufficient to furnish an idea as to the probable efficacy of the climate in an individual case.

Right here arises a question that it is often difficult to answer, viz., when is a patient cured of pulmonary tuberculosis and when is the disease only arrested and completely inactive? and yet it is, to the last degree, important for the patient to have this question answered correctly if he wants to return home. Some might say that a case may be looked upon as cured when the cough and expectoration have ceased entirely, when râles have disappeared from the chest, and the weight and general bodily functions have become normal; but it is a matter of every-day experience that under such conditions the patient frequently again begins to expectorate bacilli-laden sputa and to exhibit all the symptoms of renewed activity, showing that the disease was not cured and that the tissues had constantly contained live bacilli and larger or smaller areas of tubercle ready to soften at the proper time. It seems, therefore, as a rule, much wiser for the physician at home to be very conservative upon this point and to instil into the patient's mind, from the first, the idea that the contemplated change of climate, if found on trial to meet the patient's needs, must be a long and perhaps permanent one. If the patient hears this for the first time from his

new physician after leaving home, he is naturally surprised at the lack of accord between this advice and what he had been led to believe previously, and feels home-sick and unprepared for so radical a change in his plans.

The desirability of the change of climate being very long or permanent is especially manifest when the patient is right in the midst of what might be called the most vulnerable age; when physique and family tendencies all indicate a subject of pronounced susceptibilities. Under these circumstances a premature return home after arrest or cure (?) might lead to a fatal relapse. Colorado Springs has to-day hundreds of citizens who have lived here for years with a good practical degree of health, enjoying their share of the activities and pleasures of life, and yet they are not cured of their tuberculosis and could not return to their former homes with safety. Many others have been completely cured and could live anywhere, but remain here from choice and the growth of local interests.

With respect to this point of prolonged residence our American high-altitudes in Colorado possess most conspicuous advantages over high-altitude resorts abroad, like Davos Platz, St. Moritz, etc., which are purely and simply health-resorts, offering no opportunities for occupation to those who need it and having no permanent society or home-life. In short, a young tuberculous person who has been sent sufficiently early in the disease to Colorado soon finds that he has not been consigned to a health-resort for life, but that he has simply changed his residence to another portion of the country filled with communities with many attractions, where work and a career still await him. It must not be inferred from these statements that Colorado has more positions than people to fill them or that it is especially easy to get remunerative employment, for such is not the case. On the contrary, the unemployed poor are found here as everywhere; but it is meant that talent and ability in all lines can find scope for their exercise here as promising as elsewhere, now, and with an encouraging prospect for future growth, often absent in the Eastern States. The lot of the very poor, who are at the same time ill, is a hard one anywhere, and must remain so until means are devised by the State or by individuals to relieve this most distressing form of need.

PENETRATING WOUNDS OF THE EYEBALL.¹

BY CASEY A. WOOD, M.D.,
OF CHICAGO.

THE responsibility assumed by the surgeon who undertakes the care of an eye whose envelopes have been penetrated or ruptured is greatly increased by

the fact that not only the vision of the injured eye, but that of the second eye may be at stake. The dreadful possibility of sympathetic or migratory ophthalmia, as it is more properly called, should always be borne in mind. This disease runs such a chronic and painful course, and is so disastrous in its effects, that when once encountered it is never forgotten. The unfortunate subject of it must wait during long weary months of pain and semi-blindness before his medical attendant can assure him either that he will eventually retain some vision in the uninjured eye, or that the injured eye, as sometimes happens, may be the more useful organ. It becomes, indeed, a question as to how long the emigrated micro-organisms, which are the essential agents in producing the lesions, will continue to multiply and poison the delicate structures within the second eye.

It is not my purpose to enter upon a discussion of certain theories respecting the pathology of ophthalmia migratoria, but rather to indicate, as well as I can, some of the principles commonly regarded in dealing with certain ocular injuries, and to illustrate these with some cases that have come under my own observation.

First of all, ocular traumatism may be empirically, and, I think, usefully and practically, divided into three classes: (1st) those that are serious or not, from the standpoint of sight only, in which we are mostly concerned in asking whether or not the patient is likely to have useful vision in the injured organ; (2d) those that threaten the integrity of the second eye, quite apart from the fate of the injured eye, whose vision may at the time be fairly useful; here the eventual vision of the injured eye must be subordinated to the protection of the fellow-organ; (3d) those cases, probably the most numerous, in which sight is destroyed in the injured eye, and anxiety may be felt in respect to the vision of the other eye.

I wish first of all to report the histories of three cases that fairly belong to the first class:

In the summer of 1890 I was called in consultation with Dr. Greenfield, of Chicago, to see a young man who, in a drunken affray, had been stabbed in the left eye. The point of the knife had entered the cornea at its scleral margin on one side, had cut into the iris and lens, and had emerged at about a corresponding point on the opposite corneal border. The torn iris, with pieces of lens-matter, presented in the wound, the shallow anterior chamber being filled with blood. We decided to try to save the eye; thoroughly irrigated the sac with 1:5000 mercuric chlorid in a saturated solution of boric acid, carefully removed all the presenting lens-matter, blood, etc.; applied an antiseptic bandage; and were rewarded with having the corneal wound heal promptly and smoothly. There remained several posterior and anterior synechiae, it is true,

¹ Read before the Illinois State Medical Society, May, 1895.

and the vision did not amount to much more than finger-counting, but the organ, even in this state, was undoubtedly better than an artificial eye.

Another case was even more satisfactory :

A child, aged four years, in the summer of 1892 fell from his chair while eating at table, and in doing so knocked down a glass bottle standing at his side. A piece of the broken glass cut through the upper lid and penetrated the sclerotic at about the equator, making a jagged wound about a centimeter long. The eye was carefully cleansed, and under chloroform a projecting bead of vitreous was snipped off; the edges of the conjunctival wound were carefully sutured, the lesion of the lid was looked after, and a protective bandage applied. The wound healed nicely and there was no symblepharon. To-day the patient can read fine print and has nearly normal distant vision with the injured eye. There is, of course, a peripheral defect in the visual field, and with the ophthalmoscope some vitreous opacities may be made out, as well as the site of the injury to the choroid and retina, which is marked by a mass of pigment.

Dr. Cory referred to me last March the following case :

A boy, aged eleven years, was hit in the left eye with a splinter of glass from a window through which a stone had been thrown. I saw him on the morning following the accident. He did not complain of pain, and there was very little blood on the bandage that covered the eye. The cornea, iris, and lens were the seat of an irregularly horizontal wound. The sclero-corneal junction was not affected. There was prolapse of iris into but not through the corneal incision. The lens had come forward into the empty anterior chamber: V. L. = p. l. Treatment consisted in careful antisepsis and asepsis, and the use of an ointment of atropin. The result was quite gratifying. The corneal wound healed very rapidly; there was no incarceration of the iris; and the lens underwent almost total absorption. There never was more than a slight pericorneal injection.

In none of these cases has there developed any sign of sympathetic ophthalmia.

As examples of the second class of cases, I shall also give, very briefly, three histories :

A girl, aged five years, while playing with a pair of scissors, stabbed herself in the right eye with one of the blades. The wound was well within the sclera, near the corneal margin. Dr. E. L. Holmes, who was first consulted, very properly advised excision of the globe, although for several weeks after the injury there was considerable vision in the eye. The friends of the patient refused to have the operation performed until it was too late. I saw the case more than a year after the accident, when the distracted parents were carrying the little girl from oculist to oculist, in the hope of getting relief. She had perception of light in the second eye, which, like the first, had been destroyed by a septic iridocyclitis. The injured eye had undergone atrophy and was perfectly sightless.

A year ago last February a Polish Jew, working in a machine-shop, was sent to me for an injury inflicted by a piece of steel that had entered the front of his eye at a point corresponding to the ciliary body, had passed behind the lens and vitreous, and had lodged in the posterior wall of the globe or had penetrated the ocular coats and escaped into the orbit, I am not in a position to say which. There was no marked disturbance of vision (V. = 2/7 and J. IV) when I saw the man a few days after the accident, but the eye was tender and injected, and there had been some intraocular bleeding. Here was a man who could ill afford to risk anything or even to remain from work for any great length of time. I accordingly explained to him, to his employers, and to his rabbi the dangerous character of the injury, but he steadfastly declined operation. He left me, and I heard afterward that he became blind in both eyes.

A young man, while chipping steel, in August, 1892, was hit in the right eye with a flying fragment. The missile penetrated the cornea, iris, and lens, and its ultimate destination could not be determined owing to the traumatic cataract that followed. I removed most of the latter by a corneal incision and cut through, with a DeWecker's scissors, the tough membrane that remained, and was finally able to inspect the back part of the eye. The vitreous was cloudy and I could barely see the fundus. However, with a glass the patient had V. of 1/5, and I determined to try to preserve the eye, although symptoms of sympathetic irritation (lacrimation, photophobia, and inability to read) were occasionally present. Under a general anesthetic the globe was pierced at its lower equatorial aspect with a Graefe knife and the point of a Hirschberg electro-magnet introduced through the wound into the vitreous. After some careful manipulation I was successful in fishing out an irregularly shaped piece of steel. The man made a good recovery; both eyes became comfortable, and vision improved, so that he was able to work with ease. Within a year, however, he began to complain of his old symptoms in the better eye, and although he had nothing that to my mind justified excision of the injured eye, he saw another oculist, who, I understand, removed it.

I am not prepared to say that this was not the wisest course to pursue, as workmen cannot afford to give themselves the continued rest and care that should follow these electro-magnetic operations.

An example, and I shall give but one, of what I have termed the third class of ocular injuries, is the following :

A man, aged forty-five years, consulted me in June, 1891, for watering of his left eye, with general discomfort. He thought his reading-glasses needed changing. The eye complained of was somewhat injected, but not tender. Both distant and near vision were normal. The right eye was sightless, the tension was +1, and the patient flinched when the globe was slightly pressed upon. There was some ciliary injection. The man said that lately the eye was occasionally tender and

sometimes got red like the other. Ten years before he had been hit in the left eye with a chip of steel that had penetrated the front of the eye, but had been extracted by a fellow-workman. After that he could not see out of it. There was a scar on the cornea, but nothing could be seen in the iris, except that it was of a dirty-brown color, while that of the sound eye was blue. There were posterior synechiae and a whitish cataract. I enucleated the eye at once, and found a flattened piece of eroded and rusty steel 4 mm. long and 1 mm. wide, like the pointed extremity of a needle, imbedded in a brownish matrix of thickened vitreous, and lying close to the retina at the inferior aspect of the globe. The surrounding retina and vitreous were evidently stained with iron-rust. The man made a good recovery and has had no trouble since.

To return to the classification with which I started and in conclusion of this paper, I may say that my treatment of such cases may be summed up as follows: The eye is never to be enucleated or eviscerated in injuries of the first class; it is to be closely watched in all examples of the second class, and to be removed unless both eyes become and remain quiet. Lastly, injured eyes of the third class should always be removed.

As an aid to prognosis and treatment, I would suggest the following rules:

1. As long as the wound heals without difficulty, and no sympathetic irritation exists, I would treat with rest and antiseptics, and would not remove any eye whose injury is confined to the cornea, iris, and lens.

2. I would not enucleate an eye containing a foreign body when the injury was confined to these tissues and the foreign body could be removed.

3. I would not remove an eye containing a foreign body if there were no injury in the ciliary region, and the missile had passed through the posterior wall of the globe.

4. I would not immediately excise an eye injured by small shot (which are usually aseptic missiles), even if the wound were in the ciliary region, provided the patient could be occasionally seen by an oculist.

5. I would always excise an eye that contains a foreign body that could not be removed.

6. I would excise an eye in which the ciliary body had been injured, even if the sight were not much affected thereby. The only exceptions I would make to this rule are small gunshot-wounds, cases in which the second eye is useless or had been removed, and those instances in which there is no continued uveitis of the injured eye, provided always that the patient could be frequently seen by an oculist. For the average man, however, excision or exenteration would be, by far, the safest procedure in the last instance. When loss of sight

goes along with ciliary involvement there can be no argument in favor of retaining the eye.

7. When once ophthalmia migratoria has set in, it is wise to retain the injured eye, if there be any sight in it, as eventually it may be the better of the two.

8. It is safe and proper to remove all continually tender or inflamed eyes of adults whose vision has been lost from a penetrating wound in whatever region of the globe.

9. It is highly desirable to retain the eyeball in patients under twenty years of age, if it can be done with safety to the better eye, as earlier removal of the globe retards the growth and development of the corresponding orbit, and greatly alters and mars the facial expression.

CLINICAL MEMORANDA.

SUDDEN DEATH FROM SHOCK DUE TO THE INTRA-UTERINE INJECTION OF A SOLUTION OF LEAD ACETATE TO INDUCE ABORTION.¹

BY PAUL J. BARCUS, M.D.,
OF CRAWFORDSVILLE, IND.

On the afternoon of April 22, 1895, the dead body of Mrs. B. was found by a neighbor lying supine near a window on the floor of a bedroom in her residence. The dress was but slightly disarranged; the limbs were extended. Upon the floor, and quite near the body, were several vessels more or less filled. Among these was a teacup containing a powder and perhaps a half-ounce of liquid. There were lying near, also, a wire stilet and a bulb-syringe, with a linen catheter attached to it by means of a screw and thread. The contents of the cup were ascertained to be lead acetate, and there was some of the same solution in the syringe.

At the post-mortem examination, after making the usual median incision and grasping the fundus uteri, pressure would force from the vagina a fluid similar to that in the cup. None of the fluid could be found in the peritoneal cavity. On opening the uterus it was found to contain the product of a conception of about eight weeks' duration. The membranes were unruptured and the endometrium was not wounded.

The body presented the appearance of one having been in the enjoyment of perfect health. There was a history of good health—no heart-disease, no disease of any kind, so far as could be ascertained, to account for the sudden death. The woman had been talking to a neighbor at 11.36, and at 12.45 her dead body was found.

It was shown that the deceased had been in the habit of self-inducing abortions, and that she had successfully accomplished this no less than twelve or fifteen times. About five years ago a physician had attempted to produce an abortion for this woman by injecting pure tincture of iodine into the uterus. The injection was immediately followed by shock, from which the woman recovered, but which threatened for a time to terminate

¹ Read before the Indiana State Medical Society, June 10, 1895.

fatally. About two years ago she induced another abortion herself, which was attended by severe uterine colic and great depression.

Death must have been sudden and unattended with any marked convulsive movements, or some of the vessels near the body would have been overturned. The fatal result was due to the injection, as was shown by the history, and was attributable to shock, as there were no wounds made by the catheter, rendering it possible for air or fluid to have been injected into uterine sinuses.

A NEW METHOD FOR CORRECTING THE DEFORMITY OF PROMINENT AURICLES.

BY WESLEY W. BARKWELL, M.D., AND
JAMES BECKETT, M.D.,
OF CHICAGO.

CASES of deformity of prominent auricles are so infrequently met with and less frequently operated upon that it might be of general interest to relate a case and mode of operation. There have been three methods described for this operation: One by Ely, in which an oval piece is taken out of the entire thickness of the pinna, including skin and cartilage; another by Monk, consisting of the removal of the skin alone from the back part of the ear; and the last by Keen, in which a large oval piece is taken from the skin of the back of the auricle and a V-shaped groove taken from the cartilage, but not cutting through the skin on the inner side. In a case in which we operated upon April 29th the cartilage was very thick and firm, and this condition might have been the reason for suggesting a slight difference in the mode of procedure from any of those already mentioned. After preparing the patient in the usual way, by washing the ears and the surrounding parts with soap and water, an antiseptic solution, and then alcohol, we proceeded to outline an elliptic space on the back of the ears. This space measured in length about one-and-one-quarter inches, and in the center its greatest breadth three-eighths of an inch. It was our desire to take out this elliptic space without cutting through the skin on the front of the ears, and also that there should not be a redundancy of skin in this part. The knife was entered at one corner of the ellipse and the lower side cut out first, so that what little hemorrhage there might be would occasion no concern during the cutting of the other side. As the knife was drawn down toward the widest part of the elliptic space care was taken to slope the instrument gradually sideways more and more until it reached that point, and then gradually straighten it as it neared the other corner of the ellipse. This was done in order to take as narrow a piece as possible out of the front side of the cartilage, thus leaving no redundancy of skin on that side. After inserting the sutures and drawing them, the apposition of the parts was so complete, without any apparent redundancy, folds, or tension on the fore part of the ear, that from a front view it would be almost impossible to detect any evidence of an operation.

428 SOUTH CALIFORNIA AVENUE.

Dr. William C. Jarvis, Professor of Diseases of the Throat in the University of the City of New York, died at Willet's Point, L. I., on July 30th.

NEW DEVICE.

A NEW AND SIMPLE METHOD BY WHICH CAUTERY-IRONS MAY BE ELECTRICALLY HEATED ALMOST INSTANTANEOUSLY.¹

BY W. SCHEPPEGRELL, A.M., M.D.,
OF NEW ORLEANS, LA.;

ASSISTANT SURGEON EYE, EAR, NOSE, AND THROAT HOSPITAL; VICE-PRESIDENT NEW ORLEANS ELECTRIC SOCIETY, ETC.

WHILE at the World's Fair I was much interested by a new method of heating metals by electricity, the novelty consisting not only in the rapidity with which the metals were heated, but also in the peculiar method of applying electricity for this purpose. The metal, such as, for instance, a soldering-iron, was dipped into a bucket or jar containing a watery solution of borax and sodium carbonate, and in a few seconds became red-hot. A large, flat iron file, held in the solution, rapidly became white-hot, the heated metal standing out in brilliant contrast with the water; if the file was kept still longer in the solution it commenced to fuse rapidly.

A closer inspection showed that the bucket or jar was connected with the terminals of a 230-volt Edison current, the positive wire being attached to a plate of lead at the bottom of the jar, and the negative wire passing across the top of the jar. When used, the bar of metal was placed in contact with the negative wire, and the part to be heated was dipped into the solution, the heating process, as stated, taking place with remarkable rapidity.

It occurred to me that this method might be adapted to the heating of iron cauteries, which are still heated by the slow and cumbersome method of the charcoal-furnace or the blow-pipe oil-lamps. The heating of the ordinary platinum electro-cauterics leaves little to be desired, but this method is adapted only to the smaller cauterics, and cannot be used for the larger cautery-irons.

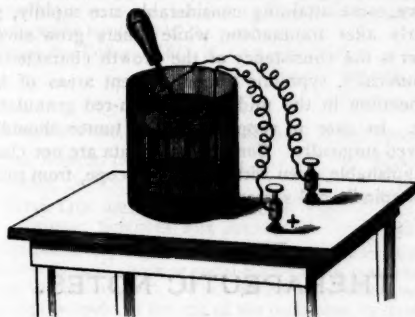
A series of experiments which I made with this method of heating cautery-irons has convinced me that it is not only simple and effective, but also quite economical. As a result of these experiments, I find that the average current required is 15 amperes at 230 volts, and the average time for heating the cauterics three seconds. The cost of each heating, as estimated for me by Mr. Coleman Reed, of the Louisiana Electric-Light Company, was about one-twelfth of a cent for one heating.

The apparatus is exceedingly simple. The vessel that I use is the jar of an ordinary bluestone battery, but any glass jar with a capacity of one or two quarts will answer the purpose. The jar is filled three-quarters with a solution of borax, 1 part; sodium carbonate, 10 parts; water, sufficient to make a density of 1.060.

A plate of lead, one inch wide, is coiled around the bottom of the jar, and to this is soldered the positive terminal. The negative wire is passed across the top of the jar, as shown in the accompanying illustration, and the apparatus is complete. The wires should connect with the Edison current-system of 230 volts, which is available in most cities in the United States and Europe. The ordinary cautery-irons may be used, the wooden or hard-rubber handles affording all the insulation that is

¹ Read before the Orleans Parish Medical Society, April, 1895.

required for the hand. It will be noted that I first place the neck of the cautery in contact with the upper (negative) wire, then as the point or knob of the cautery touches the solution it immediately becomes red-hot, and, if left longer in the solution, white-hot. To one who has never seen this method used before, the metal becoming heated on being immersed in a watery solution, and showing its brilliant incandescence through the water, the effect is very astonishing.



When we investigate the cause of the heating effect the theory that it is due to the resistance of the metal, as in the ordinary platinum electro-cauterics, will not explain the effect in this case. Fifteen amperes at 230 volts for three seconds would certainly not heat this large cautery perceptibly; and if it were a question of the resistance of the metal, it would become heated at the neck, where the resistance is greater, instead of at the large, rounded part.

The passage of the current through the iron no doubt has a slight heating effect, but the intense heat generated is due to another cause. When the electric current is passed through the solution electrolysis is set up, oxygen being liberated from the lead plate (positive terminal) and hydrogen from the immersed instrument, which is in contact with the negative terminal. This thin layer of hydrogen has a very high resistance, and at once becomes intensely hot and communicates its heat to the metallic instrument. The great heat of the hydrogen causes it to combine with the oxygen of the air, and this combustion adds to the heat of the cautery.

In experimenting with various metals for this process I find that the ordinary cautery-irons, as sold by instrument-makers, will answer every purpose. If made of copper, however, a somewhat longer time is required to heat them, but they will retain their heat for a longer period of time.

While the cautery-irons belong to the domain of general surgery, still I have found it serviceable to keep certain ones on hand. Quite recently I found this method of heating a cautery-iron useful in controlling an alarming hemorrhage after tonsillotomy, which the Paquelin thermo-cautery had failed to control.

As most hospitals and offices are supplied with the Edison current for illuminating purposes, this apparatus may be introduced with but little expense. The advantages of the method are its simplicity, reliability, and economy.

MEDICAL PROGRESS.

The Palliative Treatment of Jaundice due to Malignant Obstruction.—RUSSELL (*Edinburgh Medical Journal*, July, 1895, p. 35) has reported a case of malignant disease of the pancreas in a woman eighty-five years old, with obstruction of the common bile-duct, occasioning intense jaundice, with profound symptoms of cholemia. A proposition to relieve the obstruction by operation was at first declined, and only consented to late in the disease when the conditions were most unfavorable. The patient lived only thirty hours after the operation, and post-mortem examination disclosed the existence of primary carcinoma of the head of the pancreas, without secondary involvement. The question is raised whether an operation for the relief of the misery and discomfort of a deepening cholemia is not so humane a procedure as tracheotomy for malignant laryngeal disease, as gastrostomy for malignant esophageal stricture, or enterectomy or enterostomy for malignant intestinal obstruction. The advisability of operation would, of course, depend partly upon the possibility of making a diagnosis that could reasonably be regarded as accurate or complete. If the obstruction to the bile-duct were above the cystic duct, operative interference would be ineffectual, but with obstruction below that point draining the gall-bladder would remove the jaundice. Thus, a distended gall-bladder would indicate and warrant operation. If the gastric symptoms were not only prominent, but clearly attributable to gross involvement of the stomach, the removal of the jaundice would not give sufficient relief to warrant operation. If, on the other hand, the gastric symptoms appeared to be due rather to the jaundice than to a coarse lesion the relief of the jaundice would be followed by gastric relief. The presence of a duodenal lesion would not contraindicate operation. Even clear involvement of the liver would not necessarily be a contraindication so long as the distention of the gall-bladder showed that the hepatic duct was not blocked. The most perfect cases for operation would, of course, be those in which the lesion was confined to the head of the pancreas.

Extirpation of the Spleen for Echinococcus-cyst.—At a recent meeting of the Berlin Medical Society, HAHN (*Berliner klinische Wochenschrift*, 1895, No. 26, p. 576) reported the case of a woman, thirty-five years old, who presented a tumor as large as a child's head in the left hypochondrium, which had been noticed since the last labor, three months before. With the patient recumbent, the tumor extended upward to the left costal arch and downward into the hypogastric region, but not beyond the median line. Its surface was smooth, and its lower portion presented a sharp border, with an indentation. The tumor was but little sensitive and very freely movable. Distention of the bowel was followed by restriction of the limits of the mass. The patient had lost greatly in weight and strength, and desired to be relieved by operation. Heart, lungs, and kidneys presented no abnormality. A long incision extending an equal distance above and below the umbilicus disclosed a tumor in connection with the spleen, and provided with a pedicle of about the thickness of two fingers, constituted principally of vessels. The swelling conveyed a sense

of fluctuation. The capsule was thin, bluish-black in color, and in places presented yellowish-white spots of the size of a pea. It was concluded that the formation was either a hemorrhagic cyst, an echinococcus-cyst, or a cysto-sarcoma of the spleen, and after mature deliberation its removal, with the spleen, was decided upon. Accordingly, the pedicle was doubly ligated in six or eight sections with fine silk, and the spleen and new-formation removed, the pedicle replaced, and the abdominal wound closed. There was no complication; the temperature scarcely rose above the normal; bodily weight was at first lost, but later considerably increased. The proportion of colorless to red blood-corpuscles on the day of operation was 1 to 160; in the succeeding days, 1 to 300; then 1 to 400; and four months after the operation, 1 to 600. No swelling of the thyroid gland or of the lymph-glands was observed, and also no pains in the bones.

Dysphagia due to Abnormal Arrangement of the Great Vessels.—KELLOCK and BATTEN (*Lancet*, No. 3747, p. 1579) have reported the case of a healthy boy, two years and ten months old, who was severely choked while eating an apple, although nothing could be found in the larynx. The child was kept under observation for the night, but was dismissed quite well on the following morning. Nearly eight months later he was again hurriedly brought under observation with the history that he had suddenly choked while eating dinner. He was cyanosed and breathing with some difficulty. While awaiting treatment he became much worse and ceased to breathe altogether. The trachea was opened at once and artificial respiration performed for two-and-one-half hours, but without restoring breathing. Upon post-mortem examination a small blood-clot was found in the trachea, which had been opened by division of the fourth, fifth, and sixth rings. A large mass of granular-looking material (probably sausage) was found lying fairly loosely at the back of the pharynx, but it is uncertain whether or not it occluded the upper opening of the larynx. On dissecting the arteries arising from the aorta the following arrangement was found: There was no innominate artery; the two common carotids came off practically together, the left following the usual course, but the right crossing the trachea from the left side just above the sternal notch, to reach its usual position on the right side of the neck. The left subclavian came off from the arch of the aorta next, and followed a normal course; then came the right subclavian, arising from the descending part of the arch, and crossing obliquely behind the esophagus between this and the spine and behind the right scalenus anticus muscle to its usual situation at the root of the neck.

The Distinction of Syphilitic Neoplasms from Other New-growths.—At the recent meeting of the German Medical Congress, ESMARCH (*Wiener medizinische Blätter*, 1895, No. 26, p. 413) dwelt upon the peculiarities of syphilitic neoplasms, of which he had recently seen some forty. The cases belonging in this category usually present other manifestations of past or present syphilis, or give a history of that disease in parents or brothers or sisters. All tumors developing in the voluntary muscles should be viewed with suspicion. These occur most commonly

in the muscles that flex and extend the head, in the abdominal muscles, in those of the back and of the legs, and also in the tongue. Especially suspicious are those growths that recur at regular intervals after extirpation, and which may be dispersed by the administration of potassium iodid in large doses. Likewise those growths should be viewed with doubt that disappear after the internal administration of arsenic, and also after attacks of erysipelas or the injection of the toxins of that disease. The mode of growth is not distinctive, some attaining considerable size rapidly, particularly after traumatism, while others grow slowly; neither is the consistency of the growth characteristic. Anatomically, syphilitic tumors present areas of fatty degeneration in the midst of grayish-red granulation-tissue. In case of suppuration the tumor should be removed surgically. Some syphilomata are not clearly distinguishable, even with the microscope, from round-cell or spindle-cell sarcomata.

THERAPEUTIC NOTES.

The Treatment of Human Tuberculosis with the Blood-serum of Goats Inoculated with Tuberculin.—At a recent meeting of the Société de Biologie, BOINET (*Compt. Rend. Hebdom. des Séances de la Soc. de Biologie*, 1895, No. 25, p. 543) related that he had found in a series of experiments that the blood-serum of goats previously inoculated with tuberculin had a controlling influence upon the development of human tuberculosis in guinea-pigs. Of a number of animals thus treated and subsequently inoculated with miliary tubercle the large majority resisted infection, a number of pregnant females even giving birth to healthy offspring. Upon the basis of these observations similar serum was next employed in the treatment of eight cases of tuberculosis in human beings. In three cases of slow progress, with dry cough or scanty expectoration, the results were favorable. In two cases in the second stage of the disease marked amelioration resulted. The treatment is thought to be of no avail in the advanced disease, associated with excavation, but rather in tuberculosis of slow course, with exacerbations, accompanied by fever, hemoptysis, night-sweats, and laryngeal complications.

The Treatment of Diphtheria with the Antitoxin.—At a recent meeting of the Berlin Society for Internal Medicine, EULENBURG (*Deutsche medizinische Wochenschrift*, 1895, No. 29, p. 472) made a preliminary report of the results of a collective investigation as to the results of the treatment of diphtheria with the antitoxin. Of 10,240 cases, 5790 were treated with the antitoxin, with a mortality of 9.5 per cent., while 4450 were treated without the antitoxin, with a mortality of 14.7 per cent.

Pencils of Salicylic Acid and Chrysarobin.—

R.—Chrysarobin	10 grams.
Salicylic acid	20 "
White wax	20 "
Lanolin	50 "

—American Journal of Pharmacy.

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SATURDAY, AUGUST 10, 1895.

RECENT SANITARY LEGISLATION IN PENNSYLVANIA.

ALTHOUGH sufficient time has not elapsed for the publication of the official volume comprising the acts passed by the Pennsylvania Legislature at its session just closed, we are advised through the Department of Agriculture of the approval of two acts having significant relations to the food-supply of the State. All attempts to secure an act controlling the milk-supply along the lines that have for a number of years been followed by the Board of Health of this city failed, partly from the organized resistance of the milk-dealers and partly from the unwillingness of the farmer-contingent to accept regulations that seem to be based upon purely theoretic views. By whatever motives of self-interest either of the opposing parties may have been influenced, it would probably have been more in the interest of the community at large if the Philadelphia officials had conceded something to the practical experience of the producers and purveyors of milk. The farmer-element is too strong in almost every State in this Union to permit the passage of laws that appear as even slightly opposed to its interests.

Some legislation, however, was secured concerning the milk-supply, namely, the passage of a brief act

forbidding the addition of preservatives to milk. The terms of the act are comprehensive enough to exclude almost any article likely to be used for the purpose. It is generally known to sanitary chemists that the preservatives most commonly employed are boric acid and borax, with occasionally salicylic acid. There is much dispute as to the harmfulness of these ingredients, but as the law is specific in forbidding them, and as it is now pretty clearly established by numerous decisions of the United States Supreme Court that the right to declare a particular article injurious to the public health is reserved to the individual States in accordance with their laws, there is little doubt that the act can be used to prevent the use of these materials. That they are extensively employed, especially in the summer season, is well known. Many of them are sold as proprietary articles, without notice as to their composition, with more or less ingeniously worded certificates, from irresponsible chemists, as to harmlessness, and are used recklessly by the milk-dealers, of whom it may be said that while they are undoubtedly to blame for using anything that is foreign to the milk, they may in part be excused by the dependence which they are induced to place upon the indorsements furnished by the manufacturers of the preservatives.

In addition, however, to this specific act, a general food-law is now in operation, the enforcement of which is committed to the Department of Agriculture, and not, as might have been expected, to the State Board of Health. This somewhat unusual arrangement has arisen from the fact that two years ago the Legislature created the office of Dairy and Food Commissioner as an agent of the State Board of Agriculture for the enforcement of the oleomargarin-law. At the last session a Department of Agriculture was created, and the Dairy and Food Commissioner brought into that department. His powers were extended so as to include all the duties of supervising food-adulteration. The act is brief, and does not include specifically alcoholic beverages or drugs. In its phraseology it follows acts that have been passed elsewhere, and it is in slight conflict in one respect with the oleomargarin-act, inasmuch as the latter is absolutely prohibitory, and does not require the prosecuting officer to show a knowledge of the nature of the material sold, while in the recent act the prohibition applies generally to all kinds of food, and permits the sale of an article for what it is. Some interesting legal sparring may

be expected when prosecutions begin under this law.

All efforts in the direction of the prevention of food-adulteration must be regarded as merely experimental. Not only are laws passed with too little knowledge of the facts to secure a practical protection, but the interest of many manufacturing establishments, employing large capital, and capable of exerting pressure upon legislators, will be arrayed against many phases of restriction. Then it must be borne in mind that the newspaper press of the country is so completely subsidized by advertisers that no expression of public opinion contrary to the interests of such advertisers is to be expected. Acts, therefore, intended to secure publicity as to the composition of proprietary articles meet with the denunciation of all leading newspapers the moment the legislative situation becomes such as to suggest to the manufacturers of those remedies the necessity of opposition.

Legislation has also been enacted in Pennsylvania providing for the inspection of cattle, mainly suggested by the dangers of tuberculosis. We shall probably derive more substantial benefit from this source than from the food-laws noted.

THE STATUS OF SURGICAL TREATMENT IN PUERPERAL SEPTICÆMIA.

THE treatment of puerperal septicemia has hitherto been palliative and expectant, both on account of the difficulty in localizing the infective process in given cases and from the elusive character of the symptoms. Although there are instances in which surgical treatment is demanded, we still have to deal with cases that are entirely beyond the reach of surgery. In the first class either the point of origin of the infection or the area made continuous with it by means of the lymphatic circulation remains the seat of the developed process; in the second class the toxemic element influences the aspect of the disease.

There are two sources of error to be guarded against in the management of cases of puerperal septicemia amenable to surgical treatment: First, the difficulty in determining the seat of infection—whether it be extra-peritoneal or intra-peritoneal, the chance of drainage outward in the first instance and the necessity of either partial or total extirpation of the pelvic organs in the second depending upon the accuracy with which we differentiate the seat of infection; second, the choice of time for

operation—whether in the early absorptive period of the disease or in the developed stage.

Pathologically, the form of infection in these cases depends upon the character of the infecting elements and upon the degree of local resistance. If we were able to establish the relation between the symptoms and the pathologic process in each case we should be enabled to differentiate between those cases amenable to surgical treatment and those beyond its aid. In this, however, the difficulty in treatment lies.

The disease in its development assumes one of three forms, considered anatomically: First, a local infection, the result of necrotic endometritis extending by lymphatic involvement to the pelvic connective tissue. Second, a localized suppurative process terminating in either a phlegmon of the broad ligament or an ovarian abscess. Third, a general infection, expressed locally by a diffuse peritonitis, the result of active absorption by means of the lymphatics of infective material from the original seat of infection, and generally by the symptoms dependent upon pyemia.

Surgery is applicable probably only to the second division of cases, and if we exclude curettage from the radical surgical procedures the field is extremely limited. Total extirpation of the uterus is recommended in puerperal parametritis with suppurative lymphangitis of the uterine tissue, and the class of cases in which this association appears might be included in the first division. In the last division of cases surgical treatment is inevitably fruitless.

Practically, the landmarks by which we are to choose our way are misleading. This is best illustrated by the character of the symptoms in acute septic toxemia (sapremia). In this form of the disease the physical signs, as well as the symptoms, may, on the one hand, point to a parametritis with uterine involvement, or on the other to a localized suppurative process, whereas the local process may be entirely subordinate to the general expression of the disease, so indistinctly do the diagnostic points present themselves. Every practical obstetrician must have encountered cases in which the signs of a local infectious process have been present, namely, local infiltration, intestinal paralysis, and fetid lochia, perhaps together with the pain of peritonitis and the irregular temperature of suppuration, and yet post mortem not a single local indication is to be found that would have warranted surgical interference.

In view of these facts it seems fitting to enter a plea for the closer study of diagnosis in connection with puerperal septicemia. Skill in diagnosis will depend largely upon two factors—always excluding the essential ability for painstaking observation, characteristic of the scientifically qualified practitioner—first, upon the amount of practical experience to be counted among the resources of the diagnostician, and, secondly, the degree of general and special training he has received in the observation of symptoms.

As a rule, the men who are best able to operate are those who unfortunately are least able to separate mentally the operative from the non-operative cases, because they have usually met with only the former.

May not our reliance, therefore, upon surgery yield in some degree to an appreciation of the art of diagnosis, whether diagnostic acumen be the criterion of either obstetric or surgical skill?

EDITORIAL COMMENTS.

Trinity Church Tenements.—In a report before us, just issued by the Corporation of Trinity Church, New York, an effort is made to refute the charges laid before the Tenement-house Reform Commission last December, reflecting seriously on the management of the property held by that church.

Mr. Frederick L. Hoffman, statistician, was engaged to study the death-rate and the causes of mortality among the population of the Trinity tenements, and his article forms the principal part of this report.

Several previously published letters are appended, and one written by the rector of the church contains these words: "As to model tenement-houses the corporation is not without experience. It has already erected ten such houses, not one of which has incurred the criticism of the committee; but not one of them is full, and, if filled, they would not net more than 4 or 5 per cent., and in fact have not netted more than 3 per cent." A few lines further on it is said that "the trustees do not feel that it is their duty to engage in enterprises which do not commend themselves to *business judgment*." Here the whole matter rests. The world demands that a religious body, whose object is the furtherance of morality, shall conduct whatever it undertakes on ethical principles, no matter what the pecuniary consequences are, and when it ceases to do this it must submit to censure. A friend of Trinity in another letter published in the report reiterates the fact that Trinity conducts its *business as other business* is conducted, and that it is "a harsh judgment which insists that the work of removing old and (unsanitary) rookeries and constructing new buildings shall proceed faster than the interests of the corporation demand."

Which interests we ask? The business interests would never demand their removal, as the best-paying property is that which is the most unsanitary, namely, the hovels of the slums.

Mr. Hoffman's work shows a careful study of the records, but is open to several criticisms, which, if just, would invalidate his arguments that Trinity tenements are healthier than other houses in the same locality.

We agree with Mr. Hoffman that it is wrong to compare the death-rate of a group of individuals situated in one part of the city with the death-rate of the entire population; and also that it is not always fair to compare the health of one-thousand individuals with that of one-million, though living under similar conditions; but we would add that it is not proper to compare one set of tenements with another set, though situated on the same street, without analyzing the elements in the population of each. Thus, if negroes inhabit one row of houses and Jews another, other things being equal, the sanitary condition of the two tenements may be equally good, yet the death-rate would be much smaller among the Jews than even the general death-rate, while among the colored it would be much greater.

Another fact that Mr. Hoffman has ignored is the proportion of children living in Trinity tenements as compared with the proportion in other portions of the district. The greater the number of children under five years of age, in a given population, the greater the death-rate will be.

The methods made use of by Mr. Hoffman to prove that Trinity tenements are more sanitary than other houses in the same locality, namely Ward 8, District A, are as follows: First, he compares the death-rate of Trinity population for the year 1891 with that of the district for the same year, and finds a difference in favor of Trinity; but, as Mr. Hoffman states, the time-element is too limited, and so he makes use of other methods. Forty-one "selected tenements" are compared with eighty-three Trinity tenements for a period of two years, and again Trinity makes a favorable showing, although the specially selected tenements are not in the same locality. The third method used is the comparison between the mortality in Trinity tenements and the mortality of the district for a period of six years, although the periods are different, that for the tenements being from 1889 to 1894, and that for the district from 1885 to 1890. When a small population is concerned some slight epidemic in one year might materially alter the mortality-rate.

In a table compiled by Mr. Hoffman, showing the causes of death in the tenements for the period 1889-94, the zymotic diseases are shown to be less prevalent than in the wards of the city at large, and from this he concludes that the charges of the Board of Health that the unsanitary condition of the Trinity tenements is the cause of an excessive death-rate cannot be substantiated.

That the property in question "is not so bad as it was painted" is probably proved by this private investigation, but it would have been more convincing if the analyses were more complete, and if a commission of disinterested persons had been invited to make the investigation.

The corporation has still to meet the charge that its tenements are not all that they should be. They may not be as unsanitary as they were reported to be, but are *they as healthy and as free from fault as they might be?*

Is Trinity corporation like so many individual philanthropists and churchmen, who preach morality on Sun-

day and endow hospitals and schools, while in their business relations they are as grasping and unbrotherly as they possibly can be, and, when they are taken to task for their hypocrisy, respond that business principles are one thing and brotherly love principles something entirely different? Their employes are bought in the cheapest market and taken advantage of whenever possible. Property must yield 5 per cent. per annum, no matter who suffers.

The issuing of this report on the sanitary condition of Trinity Church tenements does not in the least satisfy the demands of public opinion, namely, that a professedly religious body should endeavor to conduct its business affairs on the same ethical basis as its spiritual affairs are conducted, and if it does not do so, then it deserves public censure.

Orthographic Ignorance and Medical Ability.—There can be no question that men have shown ability to do good intellectual and social work of undoubted value to civilization who could not spell ten words correctly. It is said that there is in the United States Senate to-day a millionaire who was formerly the Mayor of his native village, and that in the town-records his signature to hundreds of documents exists with the official title "mare" (for *Mayor*), appended by himself. It needs only to be added that he was a good Mayor, and had at least good *horse-sense*, and is to-day a better legislator than most of his associates. Just as frankly may it be admitted that many a physician of the present, as of past generations, is unable to master the difficulties of English orthography.

But, and here's the rub, that day is either past or should be past. It is by everyone admitted, and by none more fully than by the combined good physician and poor speller, that without the preliminary education, evidenced at least by correct spelling of one's native language, the modern physician is now and henceforth not only handicapped, but utterly outclassed in the race of life. It is not that knowledge of spelling will make one the better physician, but the lack of that knowledge certainly guarantees other lacks that squarely debar from the higher education essential at this day. It has been said that without money, or a certain amount of it, one cannot get what money alone cannot buy, and it is much the same with preliminary education. In the orthographic ignorance of the recent graduate there is, moreover, a bit of hypocrisy to be exposed. Somebody is "uttering false paper," as the lawyers would say, or false sheepskins—or, in plain English, some one is lying. All of our medical colleges are pretending that their preliminary examinations are real and not tricky shams and frauds. What is the fact? Have genuine preliminary examinations been held in the cases of men who spell after the manner of those cited herewith? Nay, in their "final exams," preparatory to graduating them, what was the condition of mind of their professorial examiners?

The following list of words is culled with exact spelling from the papers of those examined by the "Board of Medical Examiners, representing the State Medical Society of Pennsylvania," at its last examination. "Some of these gentlemen," writes the examiner, who kindly sends us the list, "were graduated this year by medical colleges in Philadelphia:"

Athromatous.	Murmer.
Adhear.	Matress.
Allways.	Ment (meant).
Amaloid.	Nassuae (nausea).
Apatite.	Oscultation.
Apetite.	Profalactic.
Accute.	Phomates (fomites).
Assleep.	Purilent.
Amediately.	Possible (possible).
Aeriated.	Possible.
Alsow.	Phremitis (fremitus).
Breight.	Phrematis (").
Brane.	Parencamo (parenchyma).
Be did (done).	Prespitation.
Burried.	Pereferal (peripheral).
Boath.	Pacific (gravity).
Brite.	Puffey.
Currants (of air).	Pacient.
Choryza.	Pail (pale).
Corhiza.	Quarrentine.
Cystolic.	Quarenteened.
Crysis.	Quarintine.
Characteristic.	Rhals.
Clavical.	Rahls.
Consolodation.	Rals.
Chillie (chilly).	Rhumatism.
Countinence.	Resoiver (reservoir).
Cronic.	Resivore (").
Cricis.	Resivour (").
Cealing.	Resinous (resonance).
Drosiness (drowsiness).	Resonence.
Doeing.	Rubish.
Draft (draught).	Read (blood-corpuscles).
Dissease.	Sess-pool.
Dropsey.	Sibylant.
Diastallic (diastolic).	Sheats (bed).
Detale.	Sturnum.
Dillated.	Surs (sewers).
Extream.	Suden (sudden).
Embarissed.	Sudent (").
Exhaels.	Sleight (amount).
Fatial (facial).	Streighen.
Faulse.	Snezing.
First strata.	Sourse.
Furnature.	Sputem.
Froothy.	Sputtum.
Fillter.	Steralise.
Hyealin (casts).	Stich (pleuritic).
Herd (heard).	Swoolen.
Heigh (high).	Stomack.
Hedacke.	Skinn.
Indiscreccion.	Sower (sour).
Jerms.	Tare (apart).
Knapkins.	Theraly (thoroughly).
Klebs-Lefra (bacillus).	Uiser.
Clebs-Leffer.	Vessles (blood).
Layety.	Vescles (").
Lisis.	Virolent.
Liberaly.	Woolen.
Malays (malaise).	Wollen.
Manuburm (manubrium).	Yealds.

Nostrum-advertising in Medical Journals.—The Medical Society of the State of Pennsylvania has sent out the following circular, to which we heartily subscribe:

To Editors and Publishers of Medical Journals:

As a committee appointed for that purpose we desire respectfully to call your attention to the following extracts from minutes showing the action taken by the Trustees of the American Medical Association and by

the Medical Society of the State of Pennsylvania, respectively:

"BALTIMORE, MD., May, 1895.

"*Report of the Trustees of the American Medical Association.*

"During the year no advertisements of secret remedies have been accepted that were not accompanied by a formula, but to comply still further with what appears to be the desire of a large number of those interested in the highest success of the *Journal* the editor, with the termination of the present contracts, has been instructed to accept no advertisements of medicinal preparations the proprietors of which do not give a formula containing the official or chemic name and quantity of each composing ingredient to be inserted as a part of the advertisement."

"CHAMBERSBURG, PA., May, 1895.

"Resolved, That the Medical Society of the State of Pennsylvania congratulates the American Medical Association upon the decision of the Trustees to exclude unethical advertisements from the *Journal* of the Association."

"Resolved, That a committee of three be appointed to communicate with the editors and publishers of medical journals in the United States, calling their attention to this action of the American Medical Association, and requesting them to accede to the wishes of the profession by adopting a similar rule."

Allow us also fraternally to state: That we believe that the best interests of medical men are coincident with scientific accuracy, so far as this can be obtained: That the practitioner of medicine should therefore know in all cases the character of the drug, and the formula of the preparation or chemic compound that he prescribes: That the use of a secret preparation, or nostrum, is undeniably unscientific, and cannot be intelligently defended: That hence the advertisement of such preparations by scientific journals is out of place; its effect being to promote quackery and discourage scientific prescribing: That we believe the exclusion of such advertisements will aid the circulation of medical journals, and give them a dignity and character not obtainable without such exclusion: That the hearty manner in which the action of the Trustees of the American Medical Association and that of the Medical Society of the State of Pennsylvania was received shows the very cordial indorsement by the profession of the policy here recommended. We, therefore, most earnestly, ask your careful attention to this subject, hoping and in behalf of this society requesting that you will adopt a similar rule to that of the Trustees of the American Medical Association.

Very respectfully yours,

S. S. TOWLER, M.D.,
Marienville, Pa.;

J. J. BUCHANAN, M.D.,
1924 Penn Ave., Pittsburg, Pa.;

C. H. THOMAS, M.D.,
1807 Chestnut St., Philadelphia, Pa.

Special Committee.

Artificial Caffein.—Another triumph for the laboratory has just been recorded in the synthetic manufacture of caffein. This is an important advance not only in itself,

but also in its suggestion of future progress. The process requires as yet such an elaborate series of chemic operations as to make the cost of the product considerably above that of natural caffein. But only a mere simplification of the process is required to remedy this, and that is sure to come with perseverance and practice. This field has been a most tempting but barren one to the chemist for generations past. For a long time it seemed absolutely hopeless to attempt to rival protoplasm in its transforming and constructive powers. When at last the synthesis of urea was achieved, some fifteen years ago, it was hailed as a great triumph. Slowly but painfully one product after another has been achieved, but so far these have been mainly the results of excretory metabolism. A few months ago, however, the formation from inorganic materials of something seemingly identical with albumin was announced, and now such a complex and active body as caffein has been reached. It looks as if not merely a new field, but a new world of possibilities were opening up to us. No less an authority than M. Bertillon is most sanguine about the prospect, and declares that it is only a question of time—and a short time at that—when we shall be able to construct all of our food-materials directly out of the elements without the assistance of either plant or animal. At present, however, it is much simpler to throw a few seeds into the soil and let them work the miracle for us, and we seriously doubt whether, even if by straining to the utmost, we can imitate Nature's results, we can ever hope to attain to the ease, simplicity, and beauty of her processes. Bertillon's prediction, however, is certainly among the possibilities—and how it would delight our vegetarian and our "peace-principles" friends! There would then be no more excuse for slaughter of any sort, no more animal foods to heat our blood and excite us to deeds of violence. Plants may be grown for their beauty and animals for the pleasure of their companionship, and meat-eating will become as unnecessary as cannibalism has almost become. What a real millennium it would be! Not only could the lion lie down with the lamb, but the butcher with the kid. In that Utopia would the ghost of Malthus rise up to warn—or perhaps to enjoy?

S. Weir Mitchell, M.D., LL.D.—The American medical profession must feel a deep sense of pride in the honor conferred upon one of its most distinguished members by the University of Edinburgh in granting its honorary degree of Doctor of Laws to Dr. S. Weir Mitchell, as "the chief ornament to medical science in the New World." Dr. Mitchell is well known not only as an able neurologist, but as a practical physiologist, and a strong all-around medical man, not to speak of his lyric and general literary abilities. Himself a prodigious and tireless worker, with a most fruitful and suggestive mind, the force of his example and the aid of his counsel have had a most potent influence for good upon those who have been fortunate enough to be thrown into professional relations with him; and he has created a school of younger men who promise to carry on the good work in scientific medicine that he has begun. Dr. Mitchell is already rich in the possession of the Doctor of Laws degree of our own Harvard and of an honorary degree of Doctor of Medicine from the University of Bologna.

REVIEWS.

THE EYE IN ITS RELATION TO HEALTH. By CHALMER PRENTICE, M.D. Pp. 214. Chicago: A. C. McClurg & Co., 1895. Price, \$1.50.

OPHTHALMOLOGY nowadays seems literally to teem with new truths, as a dog is said to teem with fleas. The present remarkable book has added to the number immensely. In the short space of 200 pages we have a cock-sure theory of inflammation, of hypnotism, of eye-strain, of drunk-cure, of all disease in fact. Like Pico of Miradola, the author treats *de omni re scibili et quibusdam aliis*, especially the *quibusdam aliis*. Pathologists will be interested in the certain settlement of all the problems that torment them, and Keeley must now look to his laurels and his dollars. Ophthalmologists will be pleased to learn how diabetes and all other evils of human flesh can be cured by "fogging" and "repression" and tenotomies of eyes without a trace of ametropia or of muscle-imbalance. The origin of myopia and of astigmatism, and their cure, are real gems of ophthalmic wisdom. The learned author has studied the eyes of the dead with much diligence; why did he not raise the dead with some of his new truths? Perhaps he has done so, but with praiseworthy conservatism is waiting until a greater length of time and a greater number of cases shall warrant reporting. To the specialist and his journal must be left extended criticism of this unique work. It will be "nuts" to them. The author has got hold of the tail-end, as it were, of some genuine truths, but the chief use of the volume, we suspect, if it have any influence besides a mirth-provoking one, will be to make "American ophthalmology," that sweet morsel in the cheek of European ultra-conservatism, still more the butt of just and unjust ridicule. It will perhaps also entrench the native skeptic in a dogmatic reactionism as pernicious and as extreme, as regards genuine ophthalmologic progress, as this poor sinner is guilty of in his furious whimsicality. As to his two great discoveries, "Fogging" and "Repression," he is certainly an adept in the first, and it only remains for the profession to put the latter truth in energetic practice. We catch a glimpse of the true etiology of the author's discoveries in his praise of "official surgery" and *similia similibus*. Lest it be thought we are too severe we quote a few illustrative passages:

"In glaucoma one of the most popular treatments is iridectomy, also division of the ciliary muscle, called cyclotomy."

"Disease (as ovaritis) is localized abnormal innervation, and always central in the nervous system, being a lack or excess of motive-force. The growth of tumors is due to abnormal innervation. A lesion is always a result (of disease) not a cause."

"So-called cures of dipsomania perform whatever good they effect by temporarily relieving eye-strain" (by the mydriatic in the "jab").

"Look into the dim windows of the brain twenty-four hours after death and a deviation of the eyes from a perfect position will always be found."

"A large percentage of consumption takes its origin from irritation through the visual centers."

"Latent hyperopia where mydriatics fail."

"Nervous ailments are not so common in foggy climates, because the sight-centers are not exercised so much as in a clear, bright view."

DEFECTIVE SPEECH AND DEAFNESS. By LILLIE EGINTON WARREN. New York: E. S. Werner, 1895.

IN this little book Miss Warren shows that "fluent speech may be obtained and understood by all who suffer from the different phases of deafness and the different degrees of imperfect utterance." The little book contains, furthermore, many valuable hints for the physical, ethical, and moral training of any child, whether deaf or not. In Chapter I it is maintained that the "first positive proof of hearing is in the young child's outcry of pleasure when affected by music or other sound;" in Chapter II, that "through the sense of hearing the affections are reached;" and in Chapter III, that talking aids thinking and further intellectual development. In Chapter IV is advanced the idea that "in the healthful exercise of the lungs (in speech) lies the prevention of pulmonary diseases to which the deaf mute is peculiarly subject." In Chapter V "the child suddenly deaf and the child growing deaf slowly" are considered. It is shown in this chapter that the most unjust treatment for a partially deaf or partially mute child is to remove it from school-association with children who hear and speak well. Deprived of such influences the defective child grows worse. "A child possessing but a small amount of aural power, who has once had a good perception of sound, could maintain his place in any ordinary school, if, from the first manifestation of his deafness, he were taught to use his eyes in the place of his ears."

In Chapter VI the very important fact that "the deaf child does not know what sound is," and the vital necessity, as well as the possibility, of "teaching the deaf to hear" with the hearing most of them still retain to at least a slight degree, are presented. In Chapter VII it is shown that the "hard-of-hearing adult," having, through hereditary influences, acquired language by the ear, may by educative means continue to enjoy conversation by the eye.

In Chapter VIII dull pupils, usually those "merely suffering from a defect in hearing," in Chapter IX "invented" or "pathological language," and Chapter X "lipping and careless speech in general," are considered. In the latter chapter "the sentence-method of teaching pupils to read," says the author, "I fear will only increase the slovenly speech of American children." . . . "I would urge that teaching to read be an exercise founded on knowledge of the mechanism of speech." Chapters XI and XII treat respectively of "stuttering and stammering" and "cleft palates."

OBSTETRIC SURGERY. By EGBERT H. GRANDIN, M.D., Obstetric Surgeon to the New York Maternity Hospital, Gynecologist to the French Hospital, etc.; and GEORGE W. JARMAN, M.D., Obstetric Surgeon to the New York Maternity Hospital, Gynecologist to the Cancer Hospital, etc. Royal octavo, 220 pages. Philadelphia: The F. A. Davis Co., 1895.

DRS. GRANDIN and JARMAN have written a thoroughly practical work upon a teaching-basis, and, therefore, necessarily one of paramount interest. There is much in it worthy of special note—far more than we have space to give to it—and a few points only that we cannot indorse. Fifteen photographic plates, showing the

stages of the various obstetric operations as performed upon the manikin, are distributed throughout the book, and with the eighty-five illustrations in the text contribute materially to the teaching-value of the book. It is to be regretted, however, that the drawings could not have been largely taken from Nature. The advantages to be derived from thorough asepsis and antiseptics are ably set forth, and some valuable suggestions as to the perfection of the antiseptic management of labor are offered. Notably may we mention in this respect the preference shown for creolin as an obstetric antiseptic agent. Creolin, with the possible exception of lysol, is the safest and most efficient pharmacopoeial agent in obstetric surgery, not only as a germicide, but also as a lubricant, and as such we can strongly indorse the position taken in the remark that "the vaselin-pot"—and we might add the lard-pot—"should once and for all be banished from the lying-in chamber." The section on pelvic deformities could very easily have been more thoroughly elaborated, but the various obstetric operations are generally presented in a concise and practical manner. A certain degree of inaccuracy may be noted, especially in grammatic construction and in orthography. Thus, we are acquainted with Baudelocque's valuable work in obstetrics, but his name appears strangely unfamiliar when spelled Baudelocque, and sentences such as the following, on page 12, are, to say the least, not euphonic: "It cannot be emphasized too strongly that the physician is to-day not guiltless who, whenever it may be, does not practice pelvimetry." Hypercriticism is never justifiable, but such defects as the foregoing mar perceptibly a truly valuable work. As it stands, the book must be recommended as a serviceable one for the student of obstetrics.

ATLAS DES GESUNDEN UND KRANKEN NERVENSYSTEMS NEBST GRUNDRISSE DER ANATOMIE, PATHOLOGIE, UND THERAPIE DESSELBEN. Von Dr. CHRISTFRIED JAKOB. Mit Einem Vorwort von Prof. Dr. AD. V. STRÜMPPELL. Munich: J. F. Lehmann, 1895. 10 marks (\$2.50).

THIS atlas of normal and morbid conditions of the nervous system, which is the ninth volume of the series, is largely the result of observations made at Strümpell's clinic at Erlangen, and contains seventy-eight plates, mostly colored, and fourteen woodcuts, with descriptive text. The illustrations cover serially the general morphology of the nervous system, its development and structure, its topographic anatomy, and its general and special pathology. The text proper, to which 194 pages are devoted, discusses, in addition to the subjects illustrated, the anatomy and physiology of the more important nerve-paths, the general and special therapeutics of diseases of the nervous system, and, briefly, a number of diseases of unknown origin or localization, including exophthalmic goiter, myxedema, akromegaly, tetany, and tetanus. The concluding section comprises suggestions as to the best methods of preserving, preparing, and studying nervous tissue. Altogether the work appears to be well and faithfully done, and should prove a useful aid to the student of diseases of the nervous system.

SKIASCOPY AND ITS PRACTICAL APPLICATION TO THE STUDY OF REFRACTION. By EDWARD JACKSON, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic, etc. With 26 illustrations. Philadelphia: The Edwards and Docker Co., 1895.

ALL ophthalmologists will welcome Dr. Jackson's little manual. It is an authoritative and excellent exposition of the subject with which it deals. We agree essentially with the author in his estimate of the value of this method, in the hands of those who have mastered it—a mastery, however, not easily obtained. The refraction ophthalmoscope and ophthalmometer do truly "give very inferior information." Of course, the only reliable test for the refraction of intelligent adults and young people is the subjective test with the test-types and test-lenses. But for children, for some amblyopic eyes, and for the stupid, skiascopy is the most trustworthy objective method and has the field. Another use for it that may be found is in hospital and even in private practice, in the hands of those who have not the desire or the time to do the most accurate work by the subjective method—a method that requires patience, time, and care.

EARLY SCOLIOSIS, OR CURABLE CURVATURES OF THE SPINE. By PERCY G. LEWIS, M.D., M.R.C.S., etc. Illustrated. Pp. 50. London: John Bale & Son, 1895.

ENGLISH monographs are often disappointing to Americans on account of their small size, but, as they contain much practical information in a short space, one has but to read them carefully over and over to increase their value indefinitely.

This little work before us contains much of real value upon the treatment of curable scoliosis, and this includes the majority of cases treated early and persistently.

The importance attached to hygiene, especially fresh air; exercise short of fatigue; improved habitual positions; the discarding of supporting apparatus; the development of groups of weakened muscles; to be followed by a course of general gymnastics, are all to be heartily commended and indorsed. The relations of the surgeon to the gymnastic-master are well pointed out, but the importance of massage and Swedish movements appears to have been neglected.

THE MIDDLESEX HOSPITAL. REPORTS OF THE MEDICAL, SURGICAL, AND PATHOLOGICAL REGISTRARS FOR THE YEAR 1892. London: H. K. Lewis, 1894. Price, 2/6 net.

THE medical and surgical reports comprise, each, a summary of diseases and abstracts of cases; and as an appendix there follows a "Summary of Gynecological Cases." The extensive post-mortem tables of the pathologic report contain the record of 296 cases, of which 172 were medical and 124 surgical.

Among the interesting abstracts of exceptional cases in the medical report is one of myxedema in a woman, who was "placed under the 'thyroid' treatment" and recovered.

Dr. Samuel S. Adams, of Washington, D. C., who has been Professor of Clinical Pediatrics in Columbian University, has been elected to the Chair of Diseases of Children in the University of Georgetown.

CORRESPONDENCE.

SO-CALLED OTO-MASSAGE.

To the Editor of THE MEDICAL NEWS,

SIR: Much has appeared within the past year in the medical periodicals, especially in the United States, upon so-called oto-massage, or passive motion in some form, applied to the ear for the improvement of hearing.

The procedures described and advocated by the writers of these articles may be divided into two classes: first, methods of systematic acoustic exercise of the sense of hearing by repeating vowels and isolated words near the deaf ear—the method of Urbantschitsch, of Vienna; and, second, procedures consisting in the application of direct force by pressure-sounds, probes, etc., to the membrana tympani and the malleus, and the conduction of musical notes and simple vibratory motions by various apparatus directly into the auditory canal—so-called pneumo-massage and phono-massage.

The first class of procedures, the only ones with an otologic status, are not new with Urbantschitsch, as he admits (*Wiener medizinische Presse*, October 21, 1894), having been already described and tried by Itard, Toynbee, and Benedikt long before. The improvement in hearing that Urbantschitsch has obtained in the very deaf is marked in some cases; but relapses, he states, ensue in all of them. The improvement he has effected by his acoustic exercises he regards as an intellectual rather than a sensorial one, as does also Benedikt (*Berliner klinische Wochenschrift*, July 30, 1894).

So far as concerns the second class, all forms of masseurs, it may be said they have absolutely no scientific otologic standing, and were pronounced useless, and even harmful, in a discussion on the subject at the meeting of the American Otological Society, May, 1894.

All forms of direct pressure on the membrana tympani must manifestly bruise and wound this structure, while the direct conduction of sound from vibrating instruments, etc., into the external auditory canal fatigues the ear very easily, as some of its promoters admit, and must necessarily have the same kind of effect upon any ear weakened by chronic catarrh as the noise of the telephone has, or as that of pounding rivets into place has on the catarrhal ear of boiler-makers. It is plain, therefore, that all procedures of the second class must do harm to the patients, and their exploitation, as of late in some American medical journals, savors of methods I hesitate to name.

Truly yours,

C. H. BURNETT.

SOCIETY PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION.¹

Sixty third Annual Meeting, held at London, July 30 and 31, August 1 and 2, 1895.

FIRST DAY—JULY 30TH.

SIR J. RUSSELL REYNOLDS, delivered

THE PRESIDENT'S ADDRESS.

After referring to the last meeting of the British Medical Association in London, in 1873, presided over by the

late Sir William Fergusson, and when the address in medicine was delivered by the late Edmund Alexander Parkes, he referred to the vast strides that had been made in the elucidation of both structure and function—such, for example, as in the researches upon the thyroid, the adrenal bodies, the spleen, and the liver; the advance of bacteriology; the functions of the axis-cylinder of nerves; and the magnificent prospect of a new field of therapeutics in the serum-treatment of disease.

Attention was called to that which may be considered the most striking fact of modern physiologic, pathologic, and therapeutic research, namely, the power of "living" things for both good and evil—namely, in the conservation of health and in the prevention or cure of disease. The mineral and inorganic world has helped much, but now help and hope come mainly from organized products and still living agencies.

The delicate phenomena and suggestions of "living" and "chemic" functions are under minute survey, analysis, and detail—the points where they touch, the mode in which facts of either may be rendered in terms of the other; their bearings upon the life of animals and men, both as individuals and as parts of a community; the diagnosis of the most obscure diseases, and the tentative and more than tentative endeavors to counteract poisons, which can be separated but not destroyed, over-ruled but not abolished.

In the schools there has been great improvement in the mode and scope of teaching; and this especially in its being less didactic and more practical. Much of the old-fashioned, often dreary, "lecture" of an hour's duration has passed away, and in its place is a "demonstration," an "object-lesson," a conversation, or examination. These are more useful and therefore more attractive to the students; and, at the same time, more trying, but none the less efficiently rendered by the teachers.

Again, in clinical teaching there are much more and closer personal relationships, not only between physician and student, but between student and patient. The latter is not a mere "dummy" in a bed, exhibited as a specimen of this disease or that, but a "human being" to be spoken to and to help the student to find out whether or not the card at the head of his bed, on which the diagnosis of his malady is supposed to be written, is correct, or as full as it might be.

Then there is another point particularly noticeable when demonstrations are being given, either at the bedside or in the laboratory, namely, the far greater interest and earnestness that characterize the student of to-day as compared with his predecessor. Much of this is due to the indulgence of a larger hope. Hidden as still are the great mysteries of life, there are yet definite facts to be grasped by the mind, to be seen and handled, not only imagined or asserted; and the place of these facts in the economy of Nature, their bearing upon others, and their relation to work yet to follow, give a precision and confidence to study that is, comparatively speaking, of modern growth. There was plenty of assertion and show of knowledge in the past; but even the teachers did not believe the half of what they taught, nor comprehend the half of their sage pronouncements. Nature has, as it were, taken man more into her confidence, and daily reveals so much, even while concealing more, that the learner stands firmly on the ground he has gained,

¹ From advance-sheets kindly furnished by the British Medical Journal.

instead of trembling on a quagmire, the length, and breadth, and depth of which he could not see and did not care much to imagine or investigate. He felt sure of little then but of his own and his teacher's ignorance, but now he grasps much that is ascertained truth, and such as can be seen, shown, measured, and recorded with perfect accuracy.

There are some points in the present state of scientific precision in which it would appear that but little advance has been made. Much more is known about diseases, their origin, their anatomy, pathology, interrelations, modes of ending, and their treatment; but with regard to nosology and nomenclature there is little of which to be proud. Groups of symptoms have been described by different observers as marking some tolerably distinct departures from recognized types of malady, and, for want of any nosologic position being assigned to them, they are called after their first describers' names, and so we have not only Bright's disease, Addison's, and Graves', but a host of others, often indeterminate in character, going by the name of Friedrich, Raynaud, Hodgkin, and others, until there is a fair prospect of every distinguished pathologist or clinical investigator being handed down to posterity as a disease, the name of which conveys no semblance of a meaning as to its nature. Still further, and more to be deplored, there are smaller groups of symptoms that are not honored by receiving the names of their describers as separate diseases, but the names of the observers are tied on to the symptoms; and so Cheyne-Stokes' breathing, Corrigan's pulse, von Graefe's sign, somebody's else phenomenon, and a multitude of other like phrases are used, to the great confusion of the student, and not only so, but to his real and permanent injury. For what is easier to say than that there is "Cheyne-Stokes' breathing," except to feel a sense of rest in having made use of that learned phrase, and so practically to shut the door to further inquiry as to what it means and how it comes about, what its diagnostic or prognostic value may be, and how it bears on therapeutics?

Of course, to give the proper name to a disease is to place it where it should be, nosologically, "at home," and understood; but medicine is not a science yet sufficiently "ordinated" for this thing to be done, and so we grope about, and "gather dust and chaff," with little chance or hope of turning them to value; and instead of making this the matter of most serious investigation, and finding the true relation between the new "group of symptoms" and those others which form the central facts, the backbone and whole skeleton of pathology, we lay hold of the first piece of red tape ready to our hand, tie up the group of symptoms in a bundle, and label it Brown's, Jones', or Robinson's disease!

At the very time that there is this increasing use of loose phraseology, there is also—as is common enough in other departments of life—a marked tendency in the opposite direction, and that is to connote as diseases certain groups of symptoms by some short, or long, and often not very appropriate word or words, such as akromegaly, hypertrophic pulmonary osteo-arthritis, appendicitis, pseudo-hypertrophic muscular paralysis, and others. There is abundant precedent for this; some are time-honored and old enough to be allowed to live, such as pertussis, epilepsy, apoplexy, chorea, gout, and rheumatism, which have the merits of brevity

and of meaning; but there have crept into ordinary conversation nowadays a number of expressions which aid us little, or not at all; and such words as gastrojejunostomy and laparotomy do little more than lay us open to the satires of the playwrights of the last century in foreign countries, and its predecessors in our own.

But whatever may be our failures—and they are small compared with our enormous successes—there is nothing that has happened during the past twenty years to be compared in importance with the new revelations that have been made of the potency and pre-potency of life—the power of life in life—in health, in disease, and in its treatment. These include the interpretation of much of the functions of certain organs, the existence of which had been known for many years, but the utility of which had been absolutely unknown, for example, the pituitary body, the thyroid gland, the suprarenal capsules, and others.

The knowledge of the functions of the liver and the spleen has been gradually increasing for a long time, and only by slow degrees have the current notions of the metabolic properties of these organs taken the place of the older ideas of secretion of bile and balance of weight. It has been, on the other hand, although the outcome of serious investigation, but also somewhat by a fortuitous concurrence of thoughts and events, that the most astounding revelations of modern physiology have been made. What we have come to know amounts to this in general terms—that the absence of certain organs, of the functions of which, until quite recently, we knew nothing definite, leads to grave and diverse diseases of the body, whether this absence be brought about by surgical operation, or by disease more or less individual or specific in its character, and that, such being the case, the supply of the material of that organ as food, or some part of it, as an extract, to be introduced into the blood, removes the symptoms, acts with great promptitude, and, one might say, almost with some violence of disturbance of the whole economy. Not only so, but these extracts seem to possess a power reaching far beyond that which was first found to be their almost anticipated result—that is, in so modifying the action of the heart and the intravascular pressure, in a manner and to a degree entirely unlooked for, and requiring much further investigation; in order to unravel the true nature of the functions of those organs in health, and the value they may have, by their products, on the processes and treatment of disease. As yet we are only on the threshold of still greater discoveries in regard to life, but we see, through the portal, ranges of facts which are trustworthy guides as well as sign-posts, and which will, we believe, lead us to a larger knowledge of those recondite processes of life in its most essential and characteristic features—namely, of the nutrition of all organs, of the way in which this is brought about, and of the interdependence of all tissues, so that, perhaps in a far higher sense than we have ever realized before, the truth may be revealed that "when one member suffers all the others suffer with it," and the reason of this may be explained.

A very obvious consideration which should "give us pause" in self-congratulation is this, that as in past days the functions of different parts of organs, the kidneys, for example, were more or less clearly separated

by physiologists no longer with us now; so we have seen recently that only certain portions of other organs have the physiologic effects just discovered, and thus that there may be in what we have regarded as much simpler organic components, even in quite simple tissues, some unconsidered element of function, some *sine qua non* of healthy life, some missing link in the phenomena of disease, so that it behooves us to keep the mental eyes wide open, to clear away all films of prejudice or hasty complacency, to expect the unexpected, and so, without looking for it, to find our reward.

Not less important than the matter just referred to is the recent development in "microbiology" and "all that therein is." The "germ-theory" of disease is not new. When it commenced, and who has the credit of its begetting, is not known. Probably, like ancient and modern heroes, it had many parents, and as many homesteads. It is quite clear that the great Harvey entertained it. Years later it was a hobby ridden by many, but without much convincing proof.

The most important fact with regard to recent microbiologic research is the gradually increasing appreciation of the fact that these lower forms of life exert, not necessarily mischievous, but, indeed, benignant influences on the human body, and that although the mode of their operation is not fully explained, they take part in healthy processes, assisting normal functions, nay, indeed, it would seem sometimes producing them and warding off the malign effects of other influences to which we are habitually exposed. These bodies to which we are indebted for this aid operate partly by chemic action and partly by what we must call a vital process, and by their cultivation outside the human body and their modification by passing through other organisms can be made to exert a malign or a beneficial agency on man.

The third great revelation of the last twenty years is the wonderful protective and curative power of these living products. This, in a very wide sense, is not new. Of all the most powerful agents of destruction, the most violent have been derived from "living" things; they are to be found in the animal and vegetable worlds, not in the mineral. In their most terrible malignity—such as in snake-bite, glanders, or hydrophobia—these need no human skill for their development; they are prepared in the laboratory of Nature, and, alas, are only too ready to our hand. Next to these come the poisons of stinging things, and, after them, the more slowly operating and less deadly animal infections; some with indeed beneficial influence, as "vaccinia;" others with local effects on the skin, but not often great disturbance of the general health.

The vegetable kingdom can produce potent poisons, such as belladonna-berries, aconite-root and leaves, poppy-juice, and the ignatia bean; but in order to render these more deadly the hand of man has to come in and prepare nicotine, strychnin, morphia, and the like; just as it may produce from the mineral or quasi-mineral world such potent agents as hydrocyanic acid, concentrated acids, and other dealers of destruction.

The interest in these facts lies in the modern mode for their utilization. The great potency of living products has led to very fanciful notions in therapeutics; and there have been those who, to cure diseases of organs, have given portions of the same but healthy organs of

animals or of man or other animals. Again, the idea has been pronounced that even excreta were useful drugs, and that the diseased organs of man might effect a cure of those supposed to be afflicted in like manner.

Curious as some of these details are, they are of real interest to us only as they lead up, through inoculation for smallpox, to Edward Jenner's discovery of vaccination, and then, through the researches of Pasteur and Brown-Séquard, to our present state and plane of knowledge. It would seem now that there is scarcely any limit to what may be expected in the cure or prevention of disease; and the most striking of all phenomena is, to my mind, the probability of rendering an animal immune by the introduction into its organism of a healthy constituent of the body of another. This, if fully confirmed, will be the greatest veritable triumph of therapeutic medicine, instituted and guided by extended inquiry into comparative anatomy, physiology, and pathology. As in the human race or species there exist, as is well known, what may be termed "idiosyncrasies"—by which is simply meant that as a matter of fact some people, and some people's families, escape epidemic diseases, whereas they are especially prone to take others to which they may be exposed—so in the great economy of Nature certain groups of animals have been shown to exhibit no capacity for "taking," or for even being "inoculated" with the poisons to which others are exposed, and from which they suffer, and that severely. It would seem, therefore, that use may be made of these animals, more or less naturally immune from certain maladies, and that their immunity may be partially conferred on man.

Quite recently a communication of the greatest importance has been made on the rendering of animals immune against the venom of the cobra and other snakes, and on the antidotal properties of the blood-serum of immunized animals. This subject has occupied attention during the last six years, and we must all look forward with expectancy and hope to the possible and probable diminution of a great national and imperial calamity.

The outcome of all this is that the scattered fragments of knowledge and "guesses of truth" of many years have been gathered into a focus during the past twenty-five years; that the vegetable life, extracting from the mineral world the materials it needs for growth and the production of powerful agencies for good in the form of food and medicines, and for evil in the form of poisons, has given itself up to the growth of animal life, with its much more complex organs, and for the cure of ills once thought beyond the reach of human aid; but that, thanks to man's scientific ardor and industry, it has again shown itself to be our servant, our helper, and our protector.

These are not dreams of the study, they are facts of the laboratory and of daily life; and in using that word "life" again, emphasis is to be laid upon the belief that it is to living agencies and their employment that we must look for help in the care of infancy, the conduct of education—moral, mental, and physical—the training up of character as well as of limbs; that it is the guidance of living functions, in the choice of living occupations, be they either of hard work or of amusement; it is to these we must appeal if we would see the *mens sana in corpore sano*; and then it will be to these

that we may confidently look for help when the inroads of age or of disease are at hand, often to cure us of our trouble; or, if not, to give us rest and peace.

Speaking of the "professional" life, it was said that as physicians and surgeons, however numerous, we do not constitute a "body" of men unless we have some one prevailing spirit, common to us all. The profession may include its thousands and tens of thousands, but it is a crowd, a multitude, or a "mob," unless there is in it an *esprit de corps*; and, thanks to our great seats of learning, our universities and colleges, we have developed this uniting spirit now for many years. But our own special colleges of physicians and surgeons, our medical societies, and especially this vast Association, have done more within the last fifty years to give real, unifying life to its individual members than was possible, or even expected to be possible, by our forefathers.

That so large a body of men should be banded together under one common name means that they have some common purpose and some common plan of co-operation to attain it.

What that purpose is we know, namely, to render our profession of the highest service, not only to the individual but to the State, by taking our share and giving our advice in the making of our laws, so far as they affect us, as members of our profession; by the regulation of our charities; the guidance and control of labor; the care of the pauper and the pauper child; the lunatic and the quasi-lunatic, or the habitual drunkard; by the care of our poorer brethren; by the advance of scientific researches, and especially of those that require combined efforts and combined funds for their prosecution; by the promotion of useful and stable literature; and by the elevation of all that constitutes the education of the man of science, the physician, the surgeon, or the guardian of the public health.

These noble purposes cannot be achieved, nor have any of them been carried to any useful extent, without self-sacrifice, as well as the sacrifice of time; without a consideration of the views of others as well as an assertion of one's own; without respectful regard to the feelings and positions of our colleagues, as well as a due estimation of those which we may occupy; without patience as well as work; and an all-pervading sense of hope, in the midst of trying times and in the darkest hours. One thing, in addition, we should all most strenuously try to do, and that is to avoid waste of time. We may use it, or sacrifice it freely, but we cannot afford to throw away one moment; whether it be on personal ends, forlorn hopes, foregone conclusions, or threshed-out heaps of seedless fagots.

Outside our professional life, but closely mixed with our daily work, is the "social" constitution, or, as some would call it, the "environment" in which we have "to live and move and have our being." Certainly it has changed much within the last twenty years, and it would be impossible to say in what ways we have advanced, and in what others we have either retrograded or gone far, far out of the beaten track. The changes are on all hands, are pressing, importunate, and overbearing.

It would seem as if "reverence, that angel of the world," had from some regions taken flight, and that in her place were idols, or mocking shadows, or gorgeously apparelled lay-figures. This absence of reverence shows

itself everywhere, but, perhaps, it is possible to classify even such a negative quality and put its leading features under three great categories: (a) reverence for all that constitutes the religious element in life; (b) for that which is the groundwork of "social" propriety, and one may say even of decency, as our predecessors would have thought; and (c) for the constituted order of relative dignity in "family" life.

Finally, reference was made to the conduct of our profession to the "religious" element in our nature. Here we have nothing whatever to do with creeds, be they hoary with age or flushed with the bloom of youth; as members of the medical profession, we have to deal with those to whom these creeds mean much, and are, with what they entail to many, the be-all and end-all of existence. In giving the help we hope and ought to give to suffering and sorrowing man, we should do nothing worthy of the name unless we realize, and that to the full, the importance of this factor in our lives and theirs; and so guide its operation as to help it to chasten, subdue, control, and comfort those to whom it is the minister that they feel to be sent from God to help them in their passage through this region of passing shadows to that of realities which are abiding things.

(To be continued.)

NEWS ITEMS.

Food-adulteration.—The following is the text of an Act passed by the Pennsylvania Legislature at its last session and approved by the Governor:

AN ACT to provide against the adulteration of food and providing for the enforcement thereof.

SECTION 1. Be it enacted, etc., that no person shall within this State manufacture for sale, offer for sale, or sell any article of food which is adulterated within the meaning of this Act.

SEC. 2. The term "food" as used herein shall include all articles used for food or drink by man, whether simple, mixed, or compound.

SEC. 3. An article shall be deemed to be adulterated within the meaning of this Act.

(a) In the case of food: (1) If any substance or substances have been mixed with it so as to lower or depreciate or injuriously affect its quality, strength, or purity. (2) If any inferior or cheaper substance or substances have been substituted wholly or in part for it. (3) If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it. (4) If it is an imitation of or is sold under the name of another article. (5) If it consists wholly or in part of a diseased, decomposed, infected, tainted, or rotten animal or vegetable substance or article, whether manufactured or not—or in case of milk if it is the product of a diseased animal. (6) If it is colored, coated, polished, or powdered, whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is. (7) If it contains any added substance or ingredient which is poisonous or injurious to health. *Provided*, that the provisions of this Act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food if each and every package sold or offered for sale be dis-

tinctly labelled as mixtures or compounds, and are not injurious to health.

SEC. 4. Every person manufacturing, offering, or exposing for sale, or delivering to a purchaser any article of food included in the provisions of this Act shall furnish to any person interested or demanding the same who shall apply to him for the purpose and shall tender him the value of the same, a sample sufficient for the analysis of any such article of food which is in his possession.

SEC. 5. Whoever refuses to comply upon demand with the requirements of Section 4 and whoever violates any of the provisions of this Act shall be guilty of a misdemeanor, and upon conviction shall be fined not exceeding one-hundred nor less than fifty dollars, or imprisoned not exceeding ninety nor less than thirty days, or both; and any person found guilty of manufacturing, offering for sale, or selling any adulterated article of food under the provisions of this Act shall be adjudged to pay in addition to the penalties herein provided for all necessary costs and expenses incurred in inspecting and analyzing such adulterated articles of which said person may have been found guilty of manufacturing, selling, or offering for sale. *Provided*, that all penalties and costs for the violation of the provisions of this Act shall be paid to the Dairy and Food Commissioner or his agent, and by him paid into the State Treasury, to be kept as a fund separate and apart for the use of the Department of Agriculture for the enforcement of this Act, and to be drawn out upon warrant signed by the Secretary of Agriculture and the Auditor-General.

SEC. 6. The agent of the Department of Agriculture, known as the Dairy and Food Commissioner of this State, shall be charged with the enforcement of all the provisions of this Act, and shall have the same power to enforce the provisions of this Act that is given him to enforce the provisions of the Act by which he receives his appointment.

International Conference of Railway and Steamship Sanitation.—The measures taken in different countries to protect the lives of employes of railways and steamships and to guard their sanitary interests differ widely, and are insufficient in some respects. For this reason it has appeared desirable to organize an international conference of medical men interested in these matters, and the first will be held in Amsterdam, September 20 and 21, 1895. The committee of organization has divided the work of the conference into three sections: (1) The protection of the employes; (2) the medical organization; (3) the hygienic interests of employes and passengers. The committee has prepared a report of what has been done in these directions in Holland, either by the government or by the transportation-companies, and hopes that similar reports will be made by the representatives of other governments and companies for purposes of comparison and improvement. In view of the international importance of a number of questions to be considered, the committee invites governments and railway and navigation-companies to select representatives to the conference, and to send their names, together with the titles of communications to be presented, to the General Secretary, Dr. Pijnappel, Stadhouderskade 60, Amsterdam, before September 1st. Members of the

conference will pay a fee of 5 florins (\$2). The official languages will be French, English, and German. Prof. H. Snellen will be the presiding officer.

The Inoculation-treatment of Cholera.—Statistics prepared by POWELL (*Indian Medical Gazette*, vol. xxx, No. 7, p. 253) show that among 3021 inhabitants of India inoculated according to the method of Haffkine, there occurred 3 cases of cholera, with 2 deaths, the diagnosis in 1 case being very doubtful, while among 4046 inoculated persons there were 52 cases with 22 deaths.

The American Electro-therapeutic Association, will hold its fifth annual meeting at the College of Physicians and Surgeons of Ontario, in Toronto, Canada, on September 3, 4, and 5, 1895.

Dr. William S. King, a retired army surgeon, died on August 2d, at Asbury Park, at the age of eighty-five years.

BOOKS AND PAMPHLETS RECEIVED.

Adeno-carcinoma of the Skin Originating in the Coiled Glands. By J. A. Fordyce, M.D. Reprinted from the *Journal of Cutaneous and Genito-urinary Diseases*, 1895.

Surgical Pathology and Therapeutics. By John Collins Warren, M.D. Illustrated. Philadelphia: W. B. Saunders, 1895.

Three Cases of Acute Pyelitis in Infancy. By L. Emmet Holt, M.D. Reprinted from the *Archives of Pediatrics*, 1894.

The Nomenclature of Diseases of the Gastro-enteric Tract. By T. M. Rotch, M.D., and L. E. Holt, M.D. Reprinted from the *Archives of Pediatrics*, 1894.

The Significance of the Presence of Lactic Acid in the Stomach. By Julius Friedenwald, A.B., M.D. Reprinted from the *New York Medical Journal*, 1895.

Remarks to the Senior Class of the Ohio Medical University Previous to taking up the Subject of Refraction. By J. W. Wright, A.M., M.D. Reprinted from the *Columbus Medical Journal*, 1895.

Report of the Commissioner of Education for the Year 1891-1892. Vol. I, Containing Part I. Vol. II, Containing Parts II and III. Washington: Government Printing Office, 1894.

Ninth Annual Report of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. Transmitted to the Governor, December 1, 1893. Clarence M. Bush, State Printer of Pennsylvania, 1894.

Maps. Pennsylvania State Weather Service. Under the Direction of the Committee on Meteorology of the Franklin Institute. W. P. Tatham, Chairman; H. L. Ball, Observer in Charge. 1. Mean Annual Distribution of Heat by Isothermal Lines. 2. Annual Distribution of Precipitation. 3. Flood Map, May 31 to June 3, 1889. "Johnstown Flood."

The Prevention and Treatment of Ophthalmia Neonatorum, and the Necessity for More Efficient Legislation to Prevent Blindness from this Cause. By Charles H. May, M.D. Reprinted from the *Medical Record*, 1895.

The Pre-tubercular and Pre-bacillary Stages of Consumption. By Charles Manly, A.M., M.D. Read before the Colorado State Medical Society and before the Alumni Association of the Denver Medical College, 1894.

Some Observations of Paresis in the Negro. By P. T. Vaughan, M.D. Reprinted from the *International Medical Magazine*, 1895.

Malposition of the Testicle; Phimosis; Acute Insanity; Operation; Cure. By Howard Crutcher, M.D. Reprinted from the *Medical Record*, 1895.

The Evolution of the Diseases of Women. By W. Balls-Headley, M.A., M.D. (Cantab.), F.R.C.P. (Lond.). London: Smith, Elder & Co. Melbourne and Sydney: George Robertson & Co., 1894.